OFFICE OF
INFORMATION
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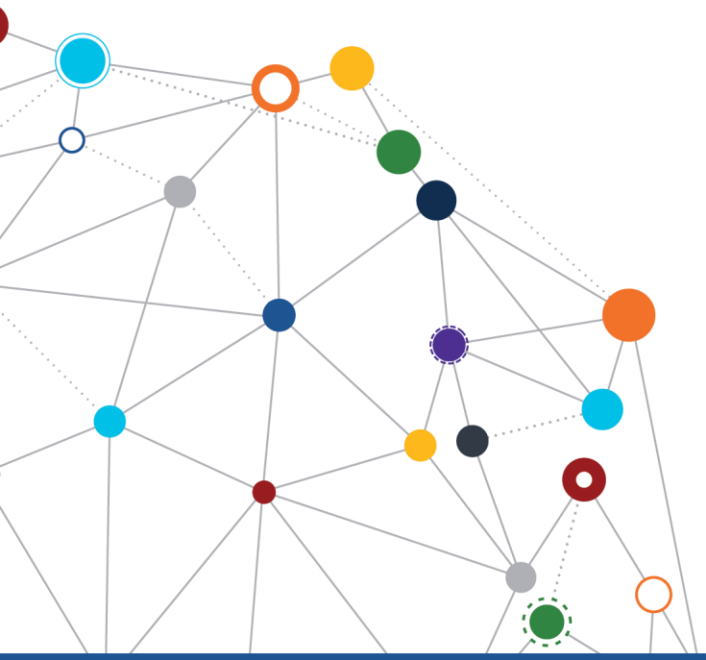
VA Production Environment Description

VA Supply Chain Modernization

November 28, 2022



U.S. Department of Veterans Affairs
Office of Information and Technology

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Disclaimer:

This document describes the Department of Veterans Affairs (VA) technical production environment that the selected solution must operate in, either in the VA cloud or in another Federal Risk and Authorization Management Program (FedRAMP®) certified cloud.

The technical specifications of the VA environment are separate and distinct from the business and functional requirements. In creating this document, a conscious effort went into limiting business and functional information to remove constraints on Contractor creativity solving VA supply chain needs. VA has existing systems that require interfacing (technical specifications) to maintain current operation and to support the Contractor's proposed approach. For clarification purposes our definitions for business, functional, and technical, follow:

Business – In the simplest of terms, *business* defines **why** the organization needs something. That includes a problem or a goal that the Business Requirement should solve or help the user achieve.

Functional – In the simplest of terms, *functional* defines **what** something does. Functional Requirement describes the service or capability that the solution offers. It describes a software system or its component. A Function Statement includes inputs to the software system, its behavior, and outputs. It can define performance of calculations, data transformation or manipulation, business process, user interaction, or any other specific requirement that defines what function a system may perform. In software engineering, Functional Requirements and Functional Specifications have the same meaning.

Technical – In the simplest of terms, *technical* defines **how** something works. Technical Requirements include how a system is designed, engineered, built, and interfaced, to operate and perform to the specifications defined by the Business and Functional Requirements.

1 Introduction

1.1 Background

The VA Office of Acquisition, Logistics and Construction (OALC) has undertaken an assessment of the VA supply chain with the goal of selecting new information systems and business processes for use in the National Cemetery Administration (NCA), Veterans Benefits Administration (VBA) and Veterans Health Administration (VHA). This process includes iterative interactions with vendors to refine knowledge and expectations of the process and proposed solutions. This toolkit supplements other documents to provide vendors with needed information to guide their questions and responses.

1.2 Purpose

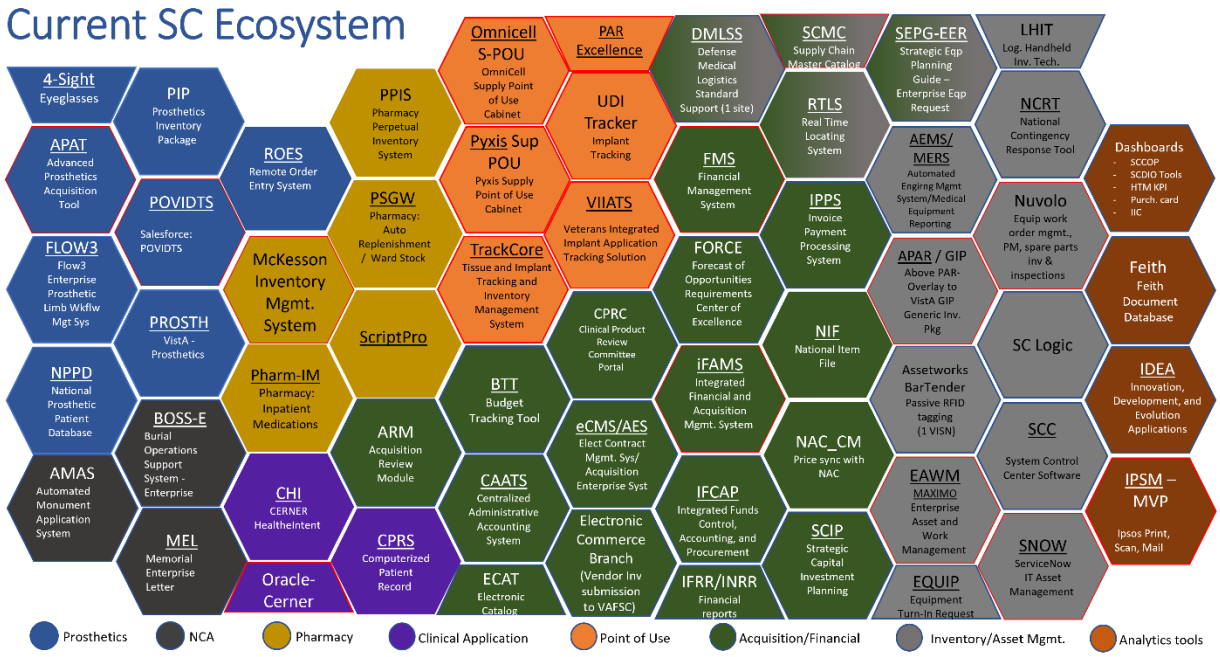
This document contains information needed by a solution provider to prepare a technical solution for deployment in a VA production environment. It includes details of the current production and forecasted future environments. Appendices contain details of technical components and links to use when details exceed a manageable length for this document or have changing content.

1.3 How to Use This Document

This document describes the technology used in the production environment today, including new electronic health record and financial management systems as part of VA Modernization. To comply with federal regulations, to reduce the expense of maintaining disparate systems and the resulting lack of standardized, comprehensive data for enterprise analytics, VA has embarked on replacing systems used in the financial, healthcare, and supply chain management. Figure 1 shows the systems involved in the VA supply chain ecosystem, color-coded by functionality/area. There are 59 systems in the enterprise currently identified as connected to supply chain functions. NCA uses 3 systems specific to their burial operations, 8 relate to Prosthetics, 5 for Pharmacy, 3 for Electronic Health Record Modernization (EHRM), 6 for point of use, 16 for acquisition and financial uses, 4 for data analytics, 10 for inventory and asset management, and 4 that contain both acquisition and financial management and inventory and asset management. VBA primarily procures office supplies and furniture; they use a subset of systems used by VHA. Appendices A through I provide descriptions of each of the cells in this diagram. VA has the expectation that the new supply chain solution or systems will replace some programs in cells and will interface with those that remain. This overview serves to create an awareness of the overall VA supply chain ecosystem. Investigation into a supply chain related component in other systems used in VA continues as there are many and VA does not have documentation of all functionalities. For example, construction activities may involve acquiring a large piece of equipment, such as a magnetic resonance imaging machine into a new VA Medical Center (VAMC) addition. The Office of Construction and Facilities Management uses the VA-Space and Equipment Planning System to plan space and equipment

for all VA health care projects. They use the ProCore software to manage construction projects. As VA has not documented possible supply chain interaction with these and other tools, it considers the diagram foundational but not complete. Programs developed or supported using contracts have cell outlines in red.

Figure 1 Existing VA systems with a supply chain component

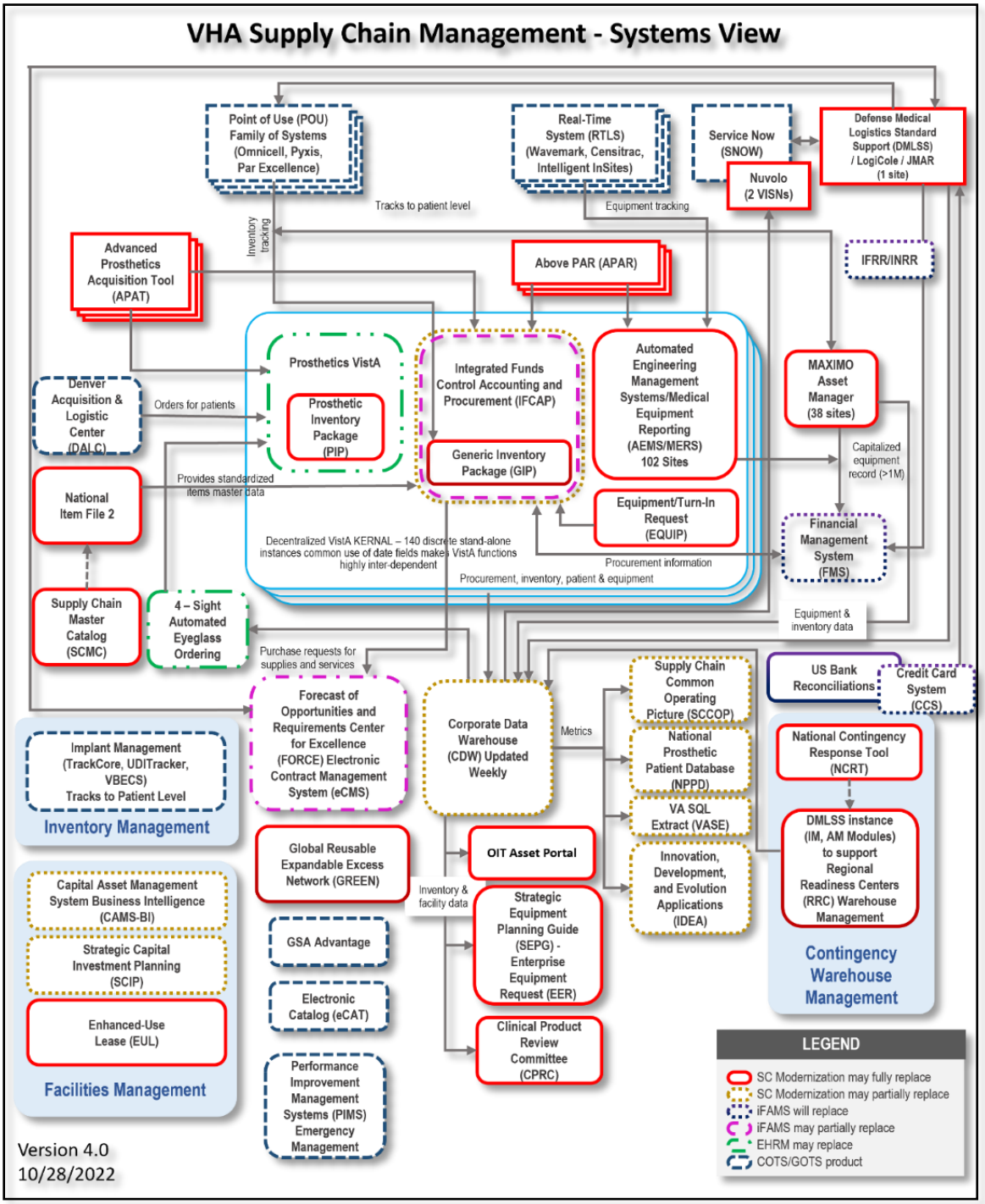


The following lists the cells within each area:

- Prosthetics – 4-Sight, APAT, FLOW3, NPPD, PIP, POVIDTS, PROSTH, ROES
- NCA – AMAS, BOSS-E, MEL
- Pharmacy – McKesson Inventory Management System, Pharm-IM, Pharmacy Perpetual Inventory System (PPIS), PSGW, ScriptPro
- Point of Use (POU) – Omnicell Supply POU, Pyxis Supply Point of Use, TrackCore, Par Excellence, UDI Tracker, VIIATS
- Acquisition / Financial – ARM, BTT, CAATS, ECAT, CPRC, eCMS/AES, Electronic Commerce Branch, FMS, FORCE, iFAMS, IFCAP, IFRR/INRR, IPPS, NIF, NAC_CM, SCIP
- Inventory/Asset Management – AEMS/MERS, APAR/GIP, Assetworks BarTender, EAWM Maximo, EQUIP, LHIT, NCRT, Nuvolo, SC Logic, SCC, SNOW
- Acquisition/Financial and Inventory/Asset Management – DMLSS, SCMC, RTLS, SEPG-EER
- Analytics Tools – Dashboards (SCCOP, SCDIO Tools, HTM KPI, Purchase card, IIC), Feith, IDEA, IPSM-MVP

Figure *2* depicts the 41 elements currently used in VHA supply chain Management systems and their data interaction. The legend shows the expectation of replacements for some of these existing systems.

Figure 2: Existing VHA supply chain system and potential replacement schemes



As these figures show, the VA has a complex and disparate system environment. Please note that the icons with multiple instances represent actual multiple instances. For example, VHA uses 140 separate instances of VistA for around 170 VAMCs. POU cabinets and Real-Time Location Systems (RTLS) have instances at a variety of locations throughout VHA.

2 Integration Platform

As shown in Figure 2 above, the new Supply Chain Solution must integrate with the other VA systems. To facilitate this integration, VA shall use the VA Logistics Integration Platform (VALIP) with InterSystems IRIS® for Health as the core interface engine to the other VA systems, such as Financial Management System (FMS), Corporate Data Warehouse (CDW) and POU systems. VALIP can support integration with the Supply Chain Solution hosted either internally at the VA Enterprise Cloud (VAEC) or externally as a Software as a Service (SaaS) or Platform as a Service (PaaS) Solution.

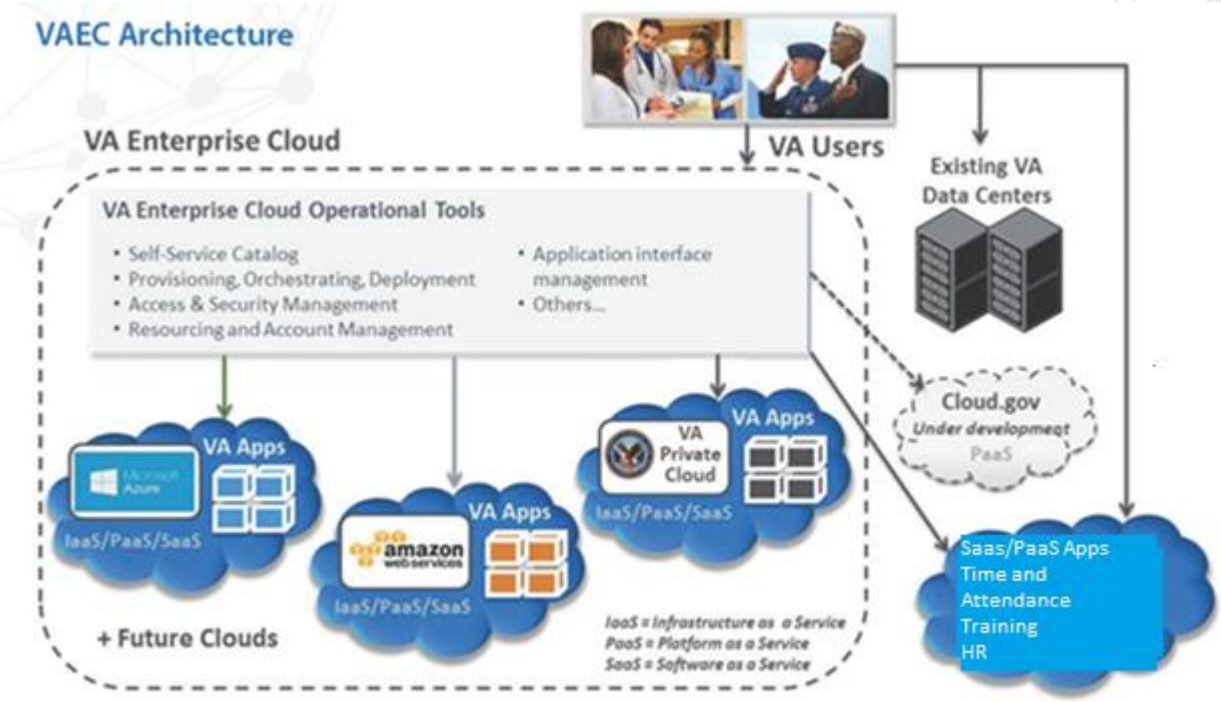
2.1 VA Enterprise Cloud

The VAEC provides hosting solutions including Amazon Web Services (AWS) GovCloud and Microsoft Azure Government Cloud. Vendors proposing to utilize the VAEC in their solutions may propose either VAEC-AWS or VAEC-Azure as they are both viable and acceptable cloud hosting options for the VA's Supply Chain Management needs. Furthermore, vendors should decide which approved VAEC cloud provider/environment is best suited to meet the Government's requirements, including any other FedRAMP High authorized Cloud.

The Cloud Operations and Migration Services (COMS) team manages the VAEC which currently hosts over 150 VA applications and provides access to multiple cloud native applications. Figure *3* depicts the high-level VAEC architecture using multiple cloud providers. The VAEC environment provides capabilities for:

- Secure cloud hosting environments
- Network traffic management from external cloud to internal VA via Trusted Internet Connection (TIC)
- 24 x 7 monitoring of all applications
- 24 x 7 support of all applications
- Access to all Cloud Provider tools which are FedRAMP approved

Figure 3: VAEC Architecture



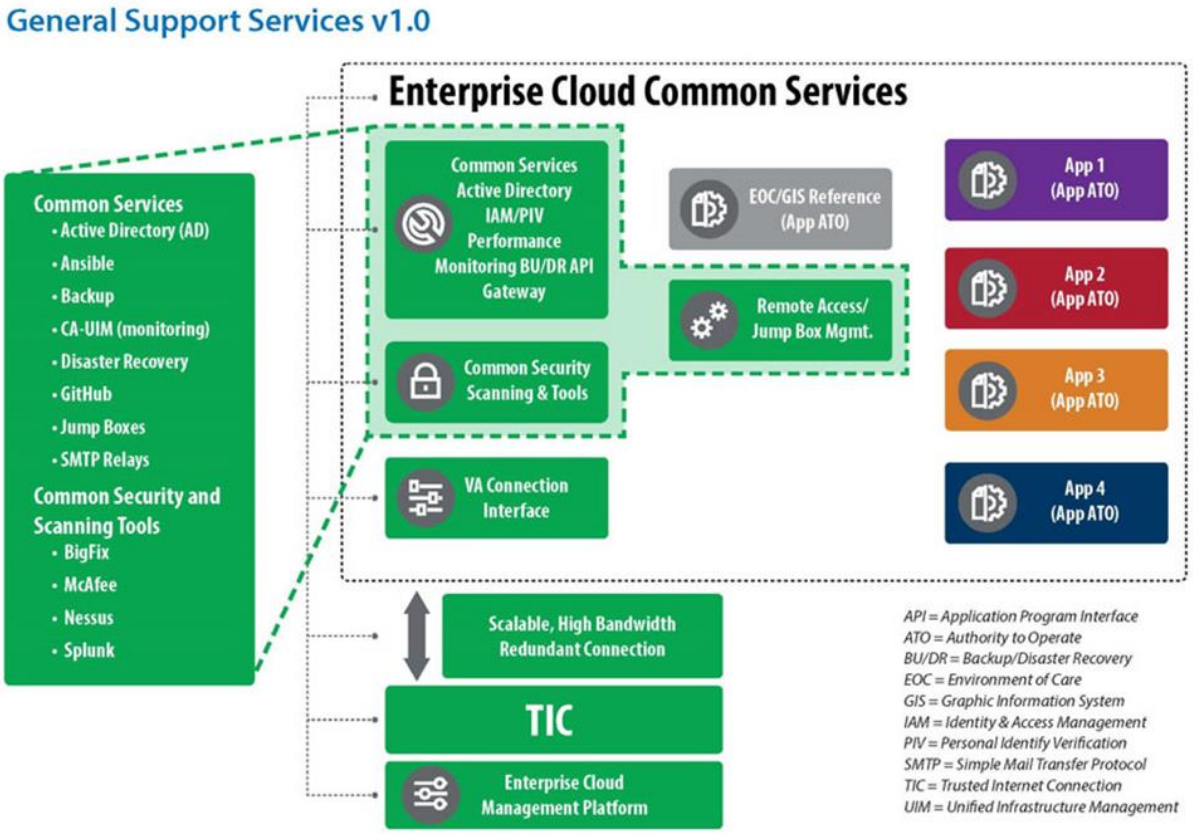
The future Supply Chain Solution deployment may use either VAEC Amazon Web Services (AWS) GovCloud or Microsoft Azure Government Cloud. VAEC AWS presently hosts supporting systems (e.g.: VALIP with IRIS for Health used as message integrator for the reference architecture).

Depending on the selected cloud hosting provider to host the Supply Chain Solution in VAEC production environment, VA will create appropriate cloud accounts to support the services available for use within the hosting space. The COMS Team will create Virtual Private Cloud (VPC) or Virtual Networks (VNET) in the VAEC for the selected cloud provider.

The COMS team also provides Core Services, self-services, and cloud consulting services to assist in implementation of cloud solutions, as depicted in Figure *4* below.

- Core Services include services related to provisioning, such as VPC creation.
- Self-services are resources provisioned by the tenant via the cloud administration portal.
- Cloud consulting services is also available to the tenants for assistance with implementation, deployment, and sustainment activities.

Figure 4: General Support Services



2.2 Integration to SaaS and PaaS

VA currently uses various SaaS and PaaS systems hosted externally from the VA network that leverage FedRAMP authorization methods. Even if the Supply chain solution uses a SaaS or PaaS solution outside of VA network, the Supply Chain Solution must integrate with VALIP (hosted in VAEC) to interface with other VA systems.

The VA prefers a VA PIV card as the user authentication method. In case that PIV authentication is not possible, then VA requires two factored authentication as a minimum standard. Using the PIV as the access method allows the Supply Chain Solution to take advantage of VA provided Single-Sign-On Internal (SSOi) access, reducing the number of logins required by VA Users.

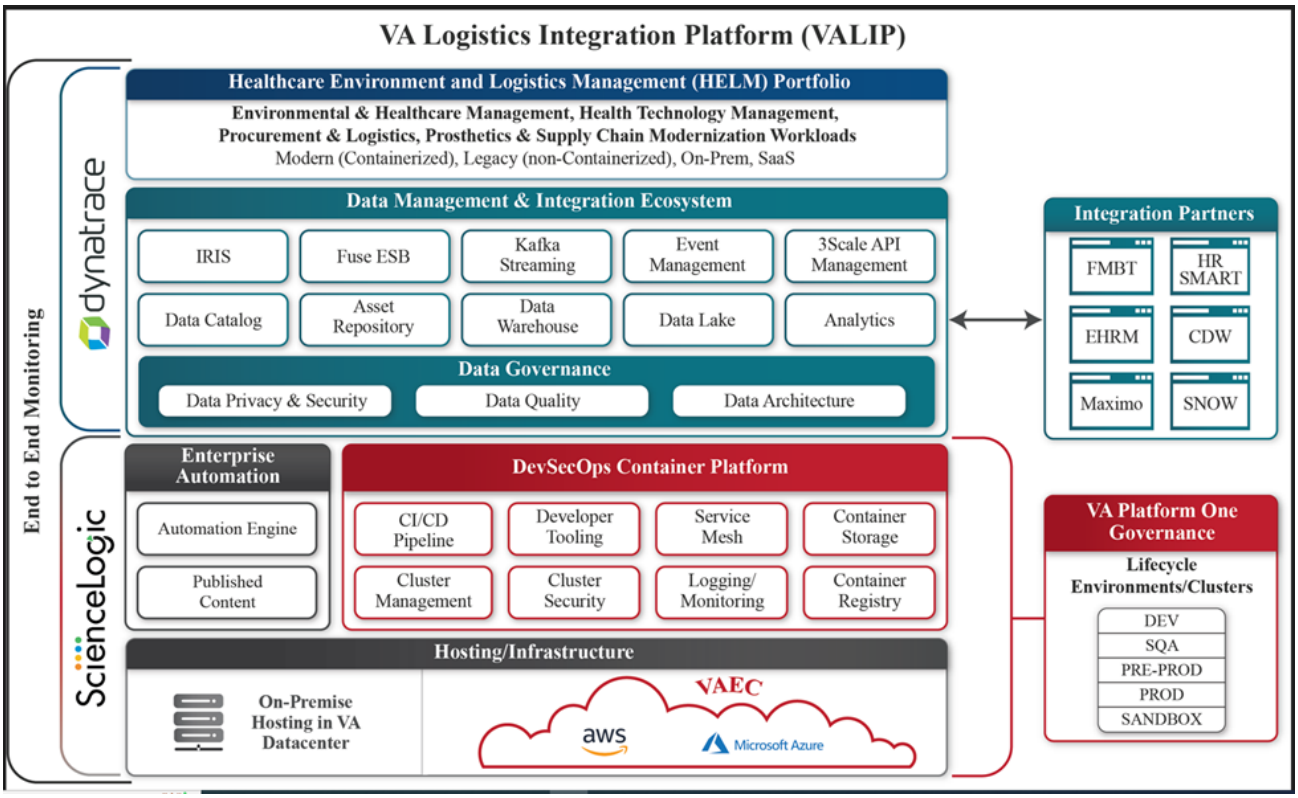
2.3 VALIP

The VALIP provides the VA enhanced resiliency and interoperability between the existing programs while facilitating infrastructure expansion, improved DevSecOps, and evolving use of applicable Commercial-Off-The-Shelf (COTS) and SaaS products.

VALIP's architecture leverages Amazon Web Services (AWS) in the VA Platform One (VAPO) container orchestration platform with Red Hat OpenShift.

VALIP offers integration technologies from Red Hat Integration platform (Fuse ESB and AMQ Streaming formerly known as Kafka) and InterSystems IRIS as shown in Figure *5*. VALIP will serve as a message interface engine between the Supply Chain Solution and the other VA systems. For more details on the VA system interfaces, refer to Section 3: Interfaces of this document.

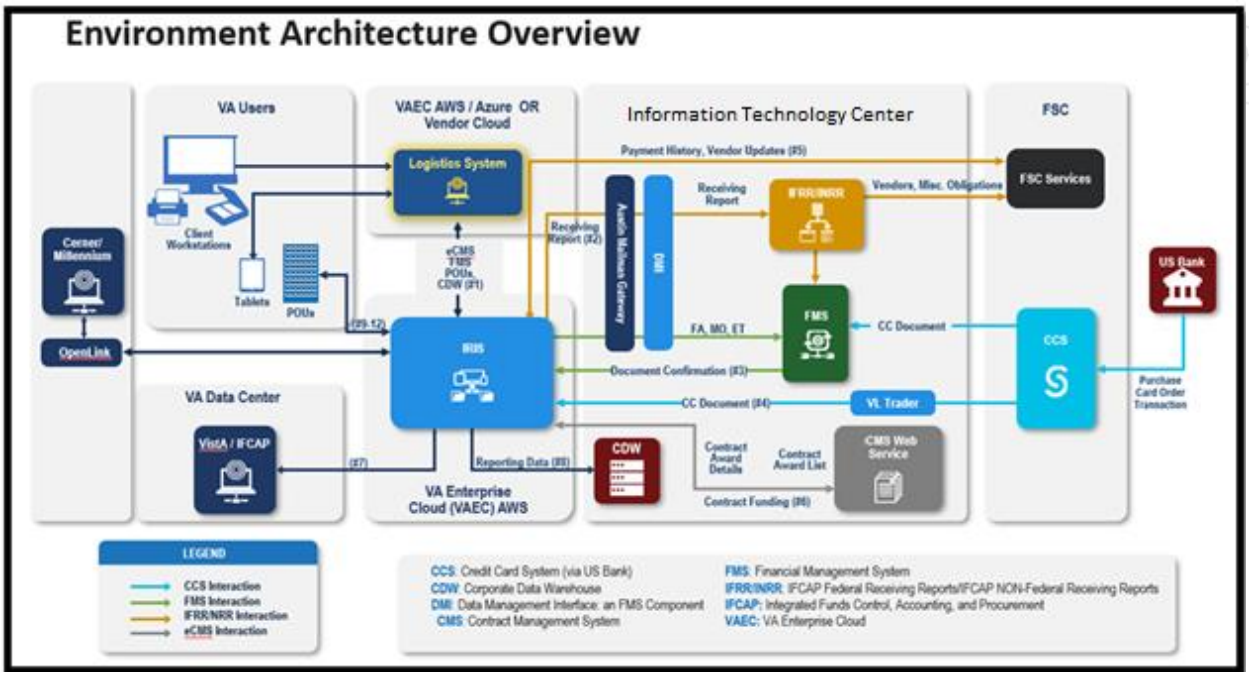
Figure 5: VA Logistics Integration Platform



3 Interfaces

The Supply Chain Solution shall utilize VALIP as an integration engine hosted in VAEC. VALIP provides high-volume transaction support, process management, and monitoring support for mission critical applications. VALIP is a robust interoperation and integration technology that normalize and transform data and serves as a platform for rapid connectivity between the Supply Chain Solution and other VA systems such as FMS, CDW and POU systems. Figure *6* shows the message flow between the Supply Chain Solution and the other VA systems using VALIP as a message integrator.

Figure 6: Supply Chain Solution environment architecture overview



Note: The numbers in the diagram above correspond to the interfaces described in Table *1* and Table *2* below. The Supply Chain Solution will use the following interfaces to Financial and CDW systems.

Table 1: Supply Chain Solution Interfaces to CDW and Financial Systems

#	Source	Destination	Bi-directional?	Purpose	Protocol
1	Supply Chain Solution	VALIP	Yes	To allow contract related (eCMS), POU, Point of Care (POC), Financial Services Center (FSC) Data Depot and Reporting (CDW) data traffic between the Supply Chain Solution and VALIP. VALIP is used as the integration engine to pass through the data to the respective system.	HTTPS
2	VALIP	Austin Mailman Gateway (MMF)	Yes	To allow financial data submitted from the Supply Chain Solution to be transmitted to the Mail Gateway.	SMTP; TCP
3	VA FMS	VALIP	No	To access from VA FMS to VALIP for transferring the DCTs	SFTP

#	Source	Destination	Bi-directional?	Purpose	Protocol
4	VL Trader	VALIP	No	To allow VL Trader sending Credit Card System (CCS) transaction to the VALIP, hosted in VAEC AWS.	SFTP
5	VALIP	FSC Services	Yes	To integrate Supply Chain Solution with Financial Services Center (FSC) data services through VALIP.	HTTPS
6	VALIP	eCMS	Yes	To allow contract related data transfer between the Supply Chain Solution and eCMS systems; VALIP is used as the integration engine.	HTTPS
7	VALIP	IFCAP	No	To transmit IFCAP transactions to VistA instance configured for VA Medical Center.	SMTP
8	VALIP	CDW	No	To integrate the Logistics data with VA CDW for supporting ad-hoc reporting capabilities.	SFTP

The Supply Chain Solution will interface with the following POU systems.

Table 2: Supply Chain Solution interface with POU systems

#	Source	Destination	Bi-directional?	Purpose	Protocol
9	Par Excellence	VALIP	Yes	A gravimetric based supply POU system that interfaces with the Supply Chain Solution. VALIP is used as the integration engine.	HTTPS
10	OmniCell Supply	VALIP	Yes	Interfaces with the Supply Chain Solution. VALIP is used as the integration engine.	HTTPS
11	Pyxis Supply	VALIP	Yes	Interfaces with the Supply Chain Solution. VALIP is used as the integration engine. Pyxis uses the file transfer protocol to send and retrieve transactions through VALIP to communicate with the Supply Chain Solution.	SFTP

#	Source	Destination	Bi-directional?	Purpose	Protocol
12	Wavemark	VALIP	Yes	Interfaces with the Supply Chain Solution. VALIP is used as the integration engine. Wavemark uses the file transfer protocol to send and retrieve transactions through VALIP to communicate with the Supply Chain Solution.	SFTP

The Supply Chain Solution will interface with the following VA Modernization systems as described in Table *3* below.

Table 3: Supply Chain Solution to Modernization Systems

#	Source	Destination	Bi-directional?	Purpose	Protocol
1	iFAMS	Supply Chain Solution	Yes	Integrated Financial and Acquisition Management System (iFAMS) is the financial and acquisition management system that replaces FMS and eCMS.	TBD
2	MHS Genesis	Supply Chain Solution	Yes	MHS Genesis is the future VA electronic health record modernization system	TBD

3.1 Expected Transactional Data

This section describes procurement expectations for sites within the VA production environment. During fiscal year (FY) 2021 (October 1, 2021, through September 30, 2022), VHA personnel entered 5.9 billion Purchase Orders (POs) into the Integrated Funds Control, Accounting, and Procurement (IFCAP) system. Activity levels depend on the complexity rating of the medical center. VA assigns a complexity level rating according to patient volume and breadth of specialty care provided.

Complexity Levels:

- Level 1 has three levels, a, b, and c with decreasing patient volume and specialty care.
- Level 1a facilities have the largest patient volume and provide the greatest breadth of specialty care, including Level 1 intensive care units.
- Level 2 and 3 facilities have fewer patients and less care options available.

The data excludes two sites, North Chicago, Illinois, and Manila, Philippines, as they have unique circumstances making them outliers. VA organizes facilities geographically into 20 Veterans Integrated Service Networks (VISNs), each containing facilities in each of the complexity levels as well as Community Based Outpatient Centers (CBOCs) and other VHA-run facilities. Table *4* contains procurement related data for VHA healthcare facilities during FY 2021, separated by complexity level. As shown, on average, procurement activity depends on the complexity.

Table 4: PO Data for VHA for 12 months

Purchase Method	Complexity Level (count)	1a – High (59)	1b – High (27)	1c – High (25)	2 – Medium (24)	3 – Low (35)
Total number of users		7,602	3,894	2,397	1,949	2,635
All	Average	66,153	57,883	36,639	26,975	18,803
	Maximum	148,340	115,147	95,392	49,353	31,171
Purchase Cards	Average	63,396	56,249	28,310	46,282	18,743
	Maximum	143,528	147,756	116,393	46,939	23,659
Total PO Count		2,579,974	1,215,534	842,695	620,420	601,696
PO # Lines	Average	4	4	3	5	4
	Maximum	137	143	124	112	98
PO Cost	Average	$811	$610	$463	$340	$296
	Maximum	$164,406	$29,250	$19,922	$15,800	$9,779
Total Spend		$8.842 B	$3.272 B	$2.290 B	$1.586 B	$1.497 B
Average per facility		$150 M	$121 M	$91.6 M	$66 M	$43 M
Cost by Budget Object	Highest Total Cost	$73,575,286	$50,680,694	$45,765,234	$18,848,581	$10,076,392
Code (BOC)	BOC	Prosthetics	Prosthetics	Prosthetics	Prosthetics	Prosthetics
Number of items in inventory	Average	265,671	234,479	230,212	94,869	81,934
	Maximum	1,431,277	1,142,582	744,295	299,562	262,589

The one-year values from June 1 to July 1 illustrates that the number of POs has remained relatively stable, if slightly reduced after the height of the COVID pandemic.

2019-2020 – 5,837,608 POs in relevant BOCs.
2020-2021 – 5,786,761 POs in relevant BOCs.
2021-2022 – 5,580,425 POs in relevant BOCs.

While VHA geographical and governance areas are VISNs, NCA and VBA have Districts, of which NCA has five and VBA has four. NCA uses the new financial management system to place orders and VBA uses the Centralized Administrative Accounting System (CAATS) system. In addition to 18,594 staff in VHA medical centers entering purchase orders and related transactions into IFCAP, 822 purchasing agents in VA offices also place orders for a total of 19,416 active users.

For purposes of monitoring for network security, VA maintains an inventory of devices in all VAMCs. It does not include those in CBOCs, or other facility types. Table *5* contains a summary of the number of devices as categorized for this purpose. The Reader's Room contains a spreadsheet with details.

Table 5: Summary of VAMC Networked Device Data

Category	# Devices
Traditional IT	357,618
Office	219,303
Network Devices	115,102
Medical Devices	62,905
Facility	16,091
Generic IoT	6,062
IT Devices	2,647
Industrial	1,247
Retail	155
Consumer IoT	5
Automotive	1

3.2 VA Environment Evolution

VA embarked on a modernization of its systems that provide major functionality, including replacement of existing EHRM, financial management, supply chain and various related systems. Based on the current schedule, VA will complete the iFAMS deployment in November 2027 (FY 2028), ending with the acquisition module enterprise wide.

The Financial Management Business Transformation (FMBT) office plans on deploying iFAMS, which is hosted in the VAEC-Azure Cloud, in VA Central Office first, then in VHA VISN by VISN. VA Central Office includes the Office of Acquisition, Logistics and Construction, including the Office of Information and Technology and the Denver Logistics Center.

VHA has deployed the initial functionality of the Oracle-Cerner system in four sites and has not released a future schedule. Due to the complicated and comprehensive nature of EHRM, deployment consists of successive Capability Sets. Until a site has the final Capability Set deployed, staff must use a combination of existing and new systems. VHA plans to deploy each site separately.

The VHA definition of 'site' may differ, depending on the context. According to the data available on the VHA Support Service Center data site, VHA has 1,727 active stations, 3 stations temporarily deactivated (2 outpatient clinics and 1 mobile clinic), and 15 that will provide outpatient care planned for activation between August 2022 and February 2025. VHA has Healthcare Systems, which consist of one or more VAMCs plus affiliated outpatient clinics, mobile units and Veteran Centers. Each location has a unique identifier assigned. Typically, the identifiers in the Healthcare System begins with the parent station identifier followed by a letter designation. Examples include the VA Maine Healthcare System in Togus, Maine. This system consists of a VAMC in Togus, 3 CBOCs, 5 locations classified as 'Other Outpatient Services' (OOSs), and 5 Veteran Centers. VHA has assigned Vet Centers identifiers sequentially from '0101V' to '0744V', regardless of the parent station. VHA also has 18 locations with an 'Outstation' designation of a 4-digit number followed by 'OS'. A Vet Center outstation is a satellite office in a leased space that's home to a minimum of 1 full-time counselor, who provides their services free to a Veteran or service member.

Every location in VHA, except the OS in Manila, Philippines, has an affiliation in a healthcare system. The number of affiliated locations ranges from 30 (Florida with 2 VAMCs, 13 CBOCs, 9 OOSs, 4 Vet Centers, 1 Mobile unit and 1 Domicile) to 4 or fewer consisting of 1 VAMC and the rest CBOCs (Alabama, Pennsylvania, North Carolina, and Minnesota locations).

The VA Modernization journey involves replacing multiple, functionally interdependent infrastructure systems, and consideration for replacing or interfacing with other ancillary systems. The internally developed Veterans Health Information Systems and Technology Architecture (VistA) system, written in the Massachusetts General Hospital Utility Multi-Programming System (MUMPS) language, contains much of the functionality used in VA. MUMPS has a hierarchical, not relational data structure. Within VHA, supply chain and finance functionality exist in the same VistA area; IFCAP and Generic Inventory Package (GIP). VistA also contains supply chain and EHR (e.g., PIP, ROES) functions. Modernization has the goal of replacing VistA, and VA has not yet identified which system replaces what area. VistA exists as one system so extracting functionality involves careful consideration and detailed selection of what menu keys to disable for what user groups. How a station transitions through this journey depends on the functionality in each system and the integrated master schedule (IMS). Since the functionality of the replacement supply chain management system does not yet exist, VA has developed plans for the transitions based on all possible IMSs. Appendix J – Interface state possibilities contains a list of 31 states that exist, without a new Supply Chain Solution. This number will change, depending on the functionality and IMS developed after selection of a replacement Supply Chain Solution. This section describes those transitions.

Figure 1 includes 16 programs with acquisition and/or financial elements related to supply chain management. It also includes 4 elements that span acquisition, financial and inventory and asset management elements of supply chain management. VHA has not yet determined what functions in these elements a replacement supply chain management system will perform. Note in **Error! Reference source not found.** above that some systems exist in only s ome of the VHA locations. For example, 1 site uses Defense Medical Logistics Standard Support

(DMLSS), 38 sites use Maximo and 2 VISNs use Nuvolo. VHA has 140 instances of VistA, each with customized functions and user interfaces. This complicates the technical interfaces needed during deployment of iFAMS and Oracle-Cerner, depending on the overall integrated master schedule.

Each of the replacement infrastructure systems will follow a separate deployment schedule, resulting in a series of interface states that each site may traverse. These interface states include combinations of existing and replacement systems. Appendix J – Interface state possibilities contains tables that describe potential interface states possible for sites to experience between the initial existing state (different depending on systems used at a site) and final (iFAMS, Oracle-Cerner and approved Supply Chain Modernization (SCM) systems).

The following lists key complications of this approach:

- Some supply chain functions in the existing system must continue until iFAMS deployed.
- Existing EHRM Supply Chain Modernization functions must continue until deployment of the related Cerner Capability Set(s).
- electronic Contract Management System (eCMS) use will continue until the Acquisition/Contracting module of iFAMS deploys in a wave after all VHA iFAMS deployment (but possibly before some SCM and EHRM installs).
- Until identification and approval of the Supply Chain Modernization system is complete, VHA cannot determine which system will perform some supply chain functions (particularly budgeting and order entry).

The following lists key considerations for the integrated deployment:

- End user actions – how will users determine what system to use for what functions during each state?
- Data migration – how to prepare data for each new state, including the final state?
- Reporting – where to get data and how to combine it for comprehensive metrics and analytics?

Each site traverses from the original state (1-all existing) to final (all systems replaced) through several states, depending on the sequence of system replacement. For the purposes of this document, ‘existing’ means systems currently in place that VA and VHA have scheduled for replacement. FMS is the name of the existing financial system; the eCMS is the existing acquisition system. VistA is a single program that performs basic EHR and supply chain management functions. All the existing systems have ancillary systems and interfaces to systems that may endure through and beyond system modernization. The enduring systems may include Service Now (SNOW), POU cabinets, and hardware components such as printers and barcode readers. Table *6* describes the current state, future, and the eventual end state. It also provides an example to illustrate the effect on a site and system interfaces during VA Modernization, excluding a new supply chain solution. Every time an interface state changes, VHA must design, develop, test, and deploy a different set of interfaces, and users must adapt to the new system environment. VA has not yet developed these interfaces. The number of

additional interface states needed to accommodate a new supply chain management system depends on the functionality and schedule of the new system. Appendix J contains tables of possible interface states available for each site, depending on the functionality and scheduling of each Modernization system. It contains three tables, depicting the interface states with the initial Oracle-Cerner capability set, the final Oracle-Cerner capability set, and those with the selected SCM solution. Table *6* and the description below explains the interface events for an example VHA site.

The sample site is one that uses standard existing systems, that is FMS for financial management and VistA for EHRM. It also uses VistA, including IFCAP, GIP, Automated Engineering Management System (AEMS)/Medical Equipment Reporting System (MERS), Equipment/Turn-In Request System (EQUIP), and Prosthetics Inventory Package (PIP) for supply chain functionality. In this example the site gets Capability Set 1 of Oracle-Cerner first, transitioning from State #1 to #8 from the list in Appendix J – Interface state possibilities (see the first and second rows in Table *6*). This involves clinical staff learning to use new functionality in the clinical applications. The sites that already have Oracle-Cerner continue to use existing financial and supply chain solutions, with no interface with Oracle-Cerner. In this example, it receives iFAMS next, transitioning to State #5 (row three in Table 6). Depending on what portion of financial functionality transitions from IFCAP to iFAMS, VHA logisticians will begin using both iFAMS and IFCAP to perform their tasks. When the site receives a new SCM system, the site transitions to State #33 (fourth row of Table 6). Depending on where the budgeting and ordering functions take place, they may use iFAMS or the new supply chain solution. This will likely require new interfaces between the new SCM system and the existing financial management systems. In this example, the site will next receive the Oracle-Cerner Capability Set that includes an interface to the supply chain prosthetics and other functions. This transitions the site to State #41 (fifth row in Table 6). Successful deployment of this state requires new interfaces between Oracle-Cerner and the new SCM system. It will also require additional training and adjustments to processes to accomplish the integration between all Modernization systems. Finally, the site will receive the acquisition module of iFAMS, transitioning to the final state, #42 (last row in Table 6). As the current supply chain functionality interfaces with eCMS, this transition will likely require additional interfaces to iFAMS. To summarize, this example site transitions through six states, from State #1, to #8, to #5, to #33, to #41 and then to #42. Table *6* demonstrates the transitions with the new system deployed highlighted.

Table 6: Transition of example VAMC to final Modernization state

State #	EHRM	Supply Chain	Financial	Contracting
1	Existing	Existing	Existing	Existing
8	Cerner-1	Existing	Existing	Existing
5	Cerner-1	Existing	iFAMS	Existing
33	Cerner-1	Approved	iFAMS	Existing
41	Cerner-2	Approved	iFAMS	Existing
42	Cerner-2	Approved	iFAMS	iAcq

Each transition requires different system interfaces, ideally designed with sensitivity to how end users will interact with systems to perform their tasks.

4 Enterprise Data Stores

The existing VHA Supply Chain environment presents unique challenges to any modernization effort as it applies to the understanding, standardization, and migration of the inherent data.

VHA Supply Chain System data form the basis of the existing VistA applications performing the current VHA Supply Chain System functions. The IFCAP portion of VistA and its sub applications GIP and Engineering largely but not completely represent those functions.

Consider three assumptions for consideration of data migration from existing sources:

- The VistA system relies on a hierarchical database design not a relational database design as most modern systems do. A CDW seeks to roll up the data from the individual systems into an enterprise relational database.
- The VistA system has remained largely decentralized across its medical centers over the past 20+ years, inviting local changes in process and data resulting in non-standard usage across the enterprise.
- Various efforts to modernize the Supply Chain System across the enterprise achieved partial success. Therefore, existing sources of data include VistA and a combination of other commercial software applications.

4.1 CDW

VA's CDW, which is hosted in the VAEC-Azure Cloud, provides an analytical platform for reporting, analytics, and research. The data stored in the CDW are collections of clinical, financial, and administrative data from many different VA systems. Even if a solution has in-house analytics tools, data sharing through CDW is critical during the adoptive transitional period as it allows stakeholders to maintain enterprise views of data fragmented across multiple systems. For example, VA now has medical equipment data critical for planning and recall management segmented between three separate systems. The CDW aggregates the data to a central point for use.

At a minimum, supply chain provides data related to equipment, equipment and facility work orders, Non-expendable and Consumable inventory and usage, financial transactions, purchase lifecycle, purchase card usage, and facility space information. VA extracts data from the source system into raw tables to provide CDW stakeholders the most flexibility in creating reports and performing analytics.

The integration pathway (e.g., Golden Gate, SSIS, Azure Data Factory/IR Gateway, MuleSoft Middleware) and Platform Landing Zone (e.g., CDW Raw, CDW Production, Enterprise Data Lake) selected during prototyping will vary depending on the technical stack of the supply chain solution proposed.

4.2 Enterprise Reporting/Dashboard

As the central aggregate point for decentralized VistA data, CDW is the primary data source for many national reporting mechanisms utilized by site staff and national program offices that require enterprise data views. The supply chain solution is responsible for providing the data necessary to maintain existing enterprise reporting tools to CDW. Table *7* describes a partial subset of the tools that use supply chain data from CDW.

Table 7: Tools using supply chain management data from CDW

Tools	Purpose	Primary Data
Strategic Equipment Planning Guide and Enterprise Equipment Request (SEPG-EER)	Two main tools by which VAMCs and VISNs strategically plan for and request equipment.	Equipment
HTM KPI Dashboard	Tracks status of High-Tech Medical (HTM) Key Performance Indicators	Medical Equipment
Supply Chain Common Operating Picture (SCCOP) Reporting Tool	Tool to assist in monitoring supply chain performance.	Purchasing, inventory, usage
VA IT Inventory Compliance (IIC) Portal	Shows % of complete data associated with IT assets and inventory information.	IT inventory, Asset Data
Information Central Analytics and Metrics Platform (iCAMP)	Authoritative data mart tool for ITOPS. It provides reporting and metrics for processes, technology, and services across ITOPS	IT Asset Data
VHA Purchase Card Dashboard	Tool assist with managing VA purchase Card compliance by combining US bank data and supply chain system data to create reports.	Purchase card usage data

Variance in data from system to system will necessitate working with the dashboards and analytics teams to assist them in mapping the new data to their tools. The chosen supply chain solution may have more data available than described here or variance in data points based on function (i.e., different format for purchase order numbers than existing data sources). Data sharing should not restrict access to the data elements needed to support the existing reports but also support ad hoc views and reports based on new/enriched data elements available through the new system.

4.3 Data sharing resources

Documentation and Subject Matter Expert support that assists the VA to understand and use the data from the VistA system. We are providing this link as reference. Home of Hardhats Around the World! - Independent group supporting the use of VistA outside of the VA.

4.4 Data Storage Requirements

The VHA Records Control Schedule (RCS) 10-1 dated January 2021 provides guidance on what records VHA must retain for specified lengths of time and is the main authority for the retention and disposition requirements of VHA records. The RCS 10- defines records as “all books, papers, maps, photographs, machine-readable materials or other documentary materials, regardless of the physical form or characteristics, made or received by an agency of the U.S. Government under Federal law or in connection with the transaction of public business and preserved or appropriate for preservation by that agency or its legitimate successor as evidence of the organization, functions, policies decisions, procedures, operations, or other activities of the government or because of the information value of data in them. Library and museum material made or acquired and preserved solely for reference or exhibition purposes, extra copies of documents preserved only for convenience or reference, and stocks of publications and of processed documents are not included. These items are referred to as non-record materials.” While VHA considers some records temporary and eligible for destruction after use, some clinical data requires retention for 75 years. Appendix K – Data Retention Requirements (most relevant) summarizes areas most relevant to supply chain management in Chapter 5 of the RCS, sections 5020 titled ‘Logistics and Facilities’ and 5700 ‘Office of Acquisition and Material Management’.

5 Item Catalog

VA would benefit from having a list, also known as a catalog, of each of the over 400,000 items and services available for procurement as well as sources that can provide it. This would allow definition, refinement, selection and ordering of items that meet the requirements in place for VA. Each site can assign a different, unique identifier to the items in their local item master file. A catalog, along with a standard item master file, would also enable analytics related to VA procurement.

VHA currently has several efforts under way to developed standardized identifiers and a master product catalog used for item lookup. It has a lookup catalog that accesses data from the Medical Surgical Prime Vendor (MSPV) contracts and other sources, to assist in identifying Sources of Supply (SoS) for needed items. The National Contingency Response Tool (NCRT) presents a ‘catalog’ of sorts, showing items available in VHA warehouses. The National Item File

system will provide a standardized identifier for users to enter in IFCAP. VHA recently began a project to develop a comprehensive item master catalog. None of the solutions provide a cart and procurement function as interfacing with individual VistA instances has proven too difficult.

5.1 VA Acquisition and Procurement Requirements

As a federal agency, VA has regulations and memorandums that provide guidance for how it may acquire (create contracts) and procure (order and receive) items and services. VA Acquisition Regulation (VAAR) Part 808 defines the required Sources of Supply (SoS) including a prioritization of use. Section 808.405-70 defines the VA Rule of Two that mandates use of Service-connected Disabled Veteran Owned Small Business (SDVOSB) and Veteran Owned Small Business (VOSB) companies, when eligible. The 2015 Supreme Court Kingdomware Technologies, Inc. v. United States ruling mandated SDVOSB and VOSB Rule of Two consideration for every VA contract award.

After contract award, VA must follow a hierarchy of procurement from available SoS. All follow VAAR 808.002 for primary guidance and other regulations listed as applicable. The required SoSs are, in order of mandated use:

1. Available Federal Inventory (VA and Other), including Supply Fund Stock, VA, and Other Agency Excess
2. Mandatory Sources
    a. Federal Prison Industries
    b. AbilityOne (if product is on the procurement list). Consistency Act of 2020; preference to blind and significantly disables included in the AbilityOne procurement list
3. Wholesale Supply Sources (GSAXcess)
4. National Committed Use Contracts such as MSPV, NEC, HTME. See Public Law 115-407 section 503, VAAR 808.004-70(b), VHA Directive 1761; 2009-017, and Memorandums titled “Use of Medical/Surgical Prime Vendor (MSPV) Contracts is Mandatory”, “Mandatory Use of Prime Vendor Contracts and National Contracts”, and “Use of Non-Expendable (NX) Equipment National Program Contracts is Mandatory”
5. VA Federal Supply Schedule (FSS) Mandatory Contracts (FSC 65 & 66)
    a. National Blanket Purchase Agreements (BPAs)
    b. Multi/Single VISN BPAs
    c. FSS Contracts without a BPA
    d. VAAR 808.004-70(b)
    e. Federal Acquisition Regulations (FAR) 8.004

    And VA FSS Optional Contracts (FSC 621) VAAR 808.004-70(b) and FAR 8.004
6. Indefinite Delivery/Indefinite Quantity (IDIQ) contracts for items not covered by national committed use contracts or FSS contracts (VAAR 808-004-70(b))
    a. VISN/Regional IDIQs
    b. Local IDIQs

7. Defense Logistics Agency's Core ECAT (VAAR 808-004-70(b))
8. Open Market Purchases and Commercial Sources

An ideal VA catalog would prioritize according to the mandated sourcing hierarchy.

McKesson and Company, Inc. holds a pharmacy "prime vendor contract for 'just-in-time' deliveries of pharmaceutical products and limited medical/surgical products to VA facilities, State Veterans Homes, and other participating Government agencies in the United States, Washington, DC, Puerto Rico, Virgin Islands, Saipan, and the Philippines." The contract base period ended August 8, 2022, with three, two-year options available at the VA's discretion. VA exercised the first option, making the new contract period ending August 9, 2024. VHA uses McKesson's system to place orders.

Since 1997, VA has had a National Formulary specifying products (drugs and supplies) available for prescription at all VA facilities.

5.2 Current Technology

Currently, placing an order into IFCAP consists of 54 steps, including entering a series of data to specify item, vendor, and delivery details. Warehouse Clerks begin receiving goods and equipment by entering a station number, then the PO number on the packing slip or invoice that came with the goods. Figure *7* depicts the interface style used in the existing system. Users with experience in VistA find it familiar, fast, and fully functional.

Figure 7: Initial Menu for PO entry

```
ENTER A NEW PURCHASE ORDER NUMBER OR A COMMON NUMBERING SERIES
   PURCHASE ORDER: 4E  999-4E     PC AUTHORIZED BUYER
   Are you adding '999-4E0326' as a new Purchase Order number ? Y  (YES)
P.O. DATE: TODAY//   (JUL 05, 2005)
METHOD OF PROCESSING: INVOICE/RECEIVING REPORT// 25  PURCHASE CARD
PURCHASE CARD NAME: INDIA  INDIANA
ESTIMATED ORDER?: N//   NO
INVOICE ADDRESS: FMS//
VENDOR: 425  IFVENDOR ONE PRODUCTS             PH:800 555-2298  NO:   425
ORD ADD:8855 ANY ROAD                        FMS:SAMPLE SCIENTIFIC PROD*
        ANYTOWN, MD 99999                  CODE:E05240924    FAX:111 111-1742

         ...OK? Yes//   (Yes)

SOURCE CODE: 2       Open Market
LOCAL PROCUREMENT REASON CODE: 10       IDENTICAL ITEM AT LOWER COST
Enter a 2237 reference number. The FCP,Cost Center,Service,Delivery
   Location and Line Items will be transferred into this Purchase Order.

          The 2237 Fiscal Year and Quarter must be earlier or same
          as the P.O. Date Fiscal Year and Quarter.
```

VHA began developing the Decentralized Hospital Computer Program in 1983 as the VHA's primary information system in use at all VAMCs. As it continued to grow in complexity, in 1995, VA renamed it VistA. VistA evolved over time, and included software developed by local

medical facility staff. VistA also includes links to allow commercial off-the-shelf software and products interaction, adding features and functionality. VistA now has 140 instances used in VHA, with all having the same interface style, but as sites had permission to customize, all have changed it to some extent. The data elements do not have consistent use among the instances.

6 Agreements and Approvals

This section describes the agreements and approvals needed to deploy a technical solution in a VA production environment.

6.1 Authority to Operate (ATO)

VA requires every program running in a production environment, whether using on premises servers or in the VA cloud, to obtain an ATO. An ATO is an official decision authorizing operation of a federal information system that explicitly accepts the risk to organizational operations. The Federal Information Security Management Act (FISMA) is federal law enacted in 2002 that requires every federal agency to have an agency-wide information security program for its information systems and data.

To obtain an ATO, systems must complete documentation and a risk assessment of the system's security controls. The risk assessment process is based on a Risk Management Framework (RMF) defined by National Institute of Standards and Technology (NIST) in SP 800-37 rev 2, "Risk Management Framework for Information Systems and Organizations." RMF is a defined seven step process used to apply specific security strategies based on risk. This process includes Prepare, Categorize Information Systems, Select Security Controls, Implement Security Controls, Assess Security Controls, Authorize Information System, and Monitor Security Controls.

The VA Knowledge Service is VA's official site for enterprise Risk Management Framework (RMF) policy and implementation guides. The VA Authorization Requirements SOP is the formal guidance on requirements to obtain an ATO in the VA.

The three key ATO requirements are Documentation, Scans, and Security Controls.

Documentation includes Configuration Management Plan, Disaster Recovery Plan, Information System Contingency Plan, Incident Response Plan, Information Security Agreement / Memorandum of Understanding, Privacy Threshold Analysis, and Privacy Impact Analysis.

Scans include Nessus Scan, Database Scan, Penetration Test/Web Application Security Assessment, Application Security Testing (e.g. Fortify), Application Threat Modeling, Security Config Compliance Data, Software Composition Analysis (new requirement).

Security Controls (NIST 800-53 Rev 4) include Control Families (incl. Privacy), Security Controls (Moderate), and Common Control Identifiers.

6.2 FedRAMP

The government wide FedRAMP program promotes the adoption of secure cloud services across the federal government by providing a standardized approach to security and risk assessment for cloud technologies and federal agencies. The United States government established FedRAMP in 2011 to provide a cost-effective, risk-based approach for the adoption and use of cloud services by the federal government. FedRAMP empowers agencies to use modern cloud technologies, with an emphasis on security and protection of federal information. VA requires FedRAMP certification of every system used in the production environment. The Vendor must coordinate with the appropriate organizations to address license requirements for existing applications if it decides to use existing cloud authorized services. If the Vendor decides to propose an external SaaS or PaaS that is not FedRAMP it must meet VA Directive 6517 Risk Management Framework for Cloud Computing Services, and additional requirements prior to each operational deployment. VA mandates that all technical proposals meet multi-factor requirements and policy requirements prior to operational deployment.

FedRAMP Applies to:

a. Executive departments and agencies procuring commercial and non-commercial cloud services provided by information systems that support the operations and assets of the departments and agencies, including systems provided or managed by other departments or agencies, contractors, or other sources
b. All cloud deployment models (e.g., Public Clouds, Community Clouds, Private Clouds, Hybrid Clouds) as defined by NIST
c. All cloud service models (e.g., Infrastructure as a Service, Platform as a Service, Software as a Service) as defined by NIST.

See https://www.fedramp.gov for details on FedRAMP certification and how to achieve it.

7 Compliance

The system shall:

1. Comply with Section 508 Accessibility
2. Comply with the VA Technical Reference Model (TRM)
3. Comply with Addendum B – VA Information and Information System Security/Privacy Language of the Supply Chain Modernization Performance Work Statement

8 Software Development Standards and Best Practice

This section describes VA software development processes, standards, and best practices. VA strives to adopt COTS applications whenever feasible. However, VA expects that integration of a solution with existing VA systems and replacement systems may require interface development and changing system configuration over time. VA software development practices emphasize customer focus, security, and flexibility to change. Vendors will need to conform to VA standards and best practices where prescribed by VA. VA will not allow exceptions/exemptions.

8.1 Development Security Operations (DevSecOps) Methodologies

VA Office of Information and Technology (OIT) follows the DevSecOps framework, which is a software engineering approach that unifies software development, security, and software operation, and relies on collaboration between the business and the IT organizations that develop, deliver, and manage applications for that business. See the Veterans Integrated Process (VIP) version 4.0 for details of the use of the agile framework, and the Product Line Playbook.

8.2 Cloud Smart Strategy

The Office of Management and Budget published the final version of its “Cloud Smart” strategy in June 2019. See the Federal Chief Information Officer presentation of the Federal Cloud Computing Strategy. Follow this link to VA’s Cloud Strategy. As the first new comprehensive guidance for agency cloud adoption since the “Cloud First” initiative, the strategy encourages agencies to consider cloud as an array of solutions that offer ways to enhance service and

mission needs while meeting technical requirements within existing policy limitations. VA complies with “Cloud Smart” guidance by migrating infrastructure and applications to commercial cloud providers using the VA Enterprise Cloud framework and shifting away from capital-intensive operating models.

VA's vision for the cloud is to leverage cloud technology to efficiently provide high quality, managed, rapidly delivered, innovative, secure, scalable, flexible, Veteran-focused applications taking advantage of VA enterprise-level cloud computing resources to provide services to Veterans. VA would like to take advantage of cloud computing benefits, including:

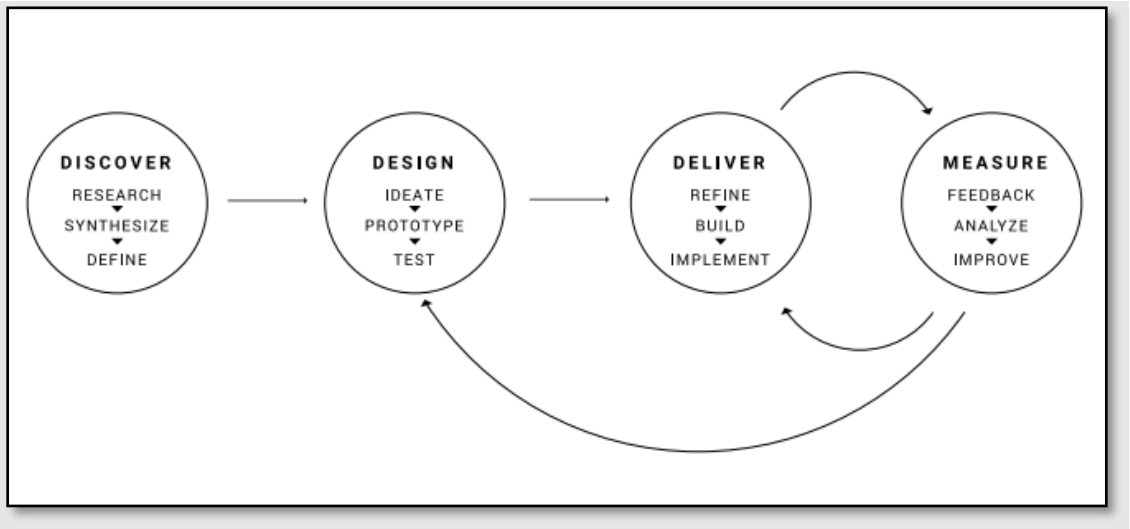
1. Enhanced cost effectiveness: potentially allow VA to do more for the Veteran with less resources
2. Enhanced security: ensure that we properly secure Veteran information
3. Improved agility/timeliness: more quickly implement solutions that benefit Veterans
4. Increased innovation: rapidly experiment with new features to better support Veterans

New applications will utilize a competitive method developed jointly by the VA Enterprise Cloud Solutions Office and the VA Technical Acquisition Center to identify the right enterprise cloud service provider (CSP) to host their application.

8.3 Human-Centered Design (HCD)

The VA has committed to incorporating human-centered design principles in interactive systems used in VA, both by Veterans and employees. VA has the expectation that the selected system design will reflect the capture of human needs, with processes and outcomes designed to meet those needs. Figure 8 shows the human centered design lifecycle used by VA.

Figure 8: Human Centered Design Lifecycle



HCD Steps

Table 8: Human Centered Design Lifecycle

Document	Purpose
HCD Design Stage Concept Guide	The purpose of this guide is to provide context, and some select methods for designing products, services, and systems that will help solve the problems highlighted from your Discovery phase.
HCD Design Stage Operations Guide	This guide is to be read along with our design stage concept guide. This guide explains how to go about the work of design and the concept guide explains why we do design.
HCD Discover Stage Concept Guide	This guide offers step-by-step guidance on how to conduct HCD discovery and then synthesize the research findings, towards the goal of helping your agencies identify opportunities to improve service.
HCD Discover Stage Operations Guide	This Human-Centered Design (HCD) Discovery Stage Operations Guide is a companion to the Human-Centered Design Discovery Stage Field Guide.

8.4 Standard 508 Compliance

The Rehabilitation Act of 1973 includes Section 508 which established guidelines for technology accessibility. VA expects that all proposed solutions with a system component comply with this law and demonstrate compliance.

8.5 Interoperability

VA has the interoperability framework goal of enabling a consistently positive, coordinated, and seamless Veteran experience. The Interoperability Organizational Framework consists of the three broad areas, or pillars, mentioned above: Business Context, Data and Information, and Systems and Technology.

The Business Context pillar includes organizational concepts such as roles, policies, and processes, as well as relevant organizational patterns such as legislative and regulatory compliance, governance, and change management. Achieving interoperability in the business context requires adherence from all VA offices to a set of standard practices. The Data and Information pillar addresses the representation, interpretation, accessibility standardization, and government of clinical, administrative, or statistical information, and requires agreement on a core set of information concepts for achievement of enterprise interoperability.

The Systems and Technology pillar addresses technical functionality for delivering interoperability and requires agreement on a core set of technical concepts such as service, interface, components, standards, and interactions for achievement of interoperability.

8.6 Agile Center of Excellence (ACOE) Metrics

As OIT implemented DevSecOps, PLM, and Agile methodologies and frameworks, the need to aggregate, report, and communicate on standard product performance and quality metrics became priority. In response, leadership formalized using the ACOE Product Scorecard, which contains key DevSecOps and Agile metrics related to;

- DevOps - lead time, cycle time, MTTR, etc.
- Quality and Compliance - Defects, Incidents, Testing, 508, etc.
- Standard Product Metrics - Type, Cloud, Low Code, Monitoring, Number Users, etc.

These metrics correlate with cost, schedule, contractor performance, and business metrics. VA collects these metrics monthly to provide information as to the current state and indicators for areas of improvement.

9 Abbreviations

Abbreviation	Description
ACOE	Agile Center of Excellence
AEMS/MERS	Automated Engineering Management System / Medical Equipment
AES	Acquisition Enterprise System
AMAS	Automated Monument Application System
APAR	Above Periodic Automatic Replacement (PAR) Enterprise Reporting
APAT	Advanced Prosthetics Acquisition Tool
ARM	Acquisition Review Module
ATO	Authority To Operate
AWS	Amazon Web Services
BOSS-E	Burial Operations Support System - Enterprise
BPA	Blanket Purchase Agreement
BTT	Budget Tracking Tool
CAATS	Centralized Administrative Accounting System
CBOC	Community Based Outpatient Centers
CCS	Credit Card System
CDW	Corporate Data Warehouse
COMS	Cloud Operations and Migration Services

Abbreviation	Description
COTS	Commercial-Off-The-Shelf
CPRC-EER	Clinical Product Review Committee-Enterprise Equipment Request Portal
CPRS	Computerized Patient Record System
CSP	Cloud Service Provider
DMLSS	Defense Medical Logistics Standard Support
EAWM	Enterprise Asset and Work Management
EC2	Elastic Compute Cloud
ECAT	Electronic Catalog
eCMS	Electronic Contract Management System
EHRM	Electronic Health Record Modernization
EQUIP	Equipment Turn-In Request
ESB	Electronic Service Bus
FedRamp	Federal Risk and Authorization Management Program
FISMA	Federal Information Security Management Act
FMBT	Financial Management Business Transformation
FMS	Financial Management System
FORCE	Forecast of Opportunities Requirements Center of Excellence
FSC	Financial Services Center
FSS	Federal Supply Schedule
FY	Fiscal Year
HCD	Human Centered Design
HTM KPI	High-Tech Medical Key Performance Indicators
HTTPS	Hypertext Transfer Protocol Secure
iCAMP	Information Central Analytics and Metrics Platform
GIP	Generic Inventory Package
IDEA	Innovation, Development, and Evolution Application
IDIQ	Indefinite Delivery/Indefinite Quantity
iFAMS	Integrated Financial and Acquisition Management System
IFCAP	Integrated Funds Control, Accounting, and Procurement
IFRR/INRR	IFCAP Non-Federal Receiving Reports / IFCAP Federal Receiving Reports
IIC	IT Inventory Compliance Portal
IPPS	Invoice Payment Processing System
IPSM-MVP	Ipsos Print, Scan, Mail
MEL	Memorial Enterprise Letter
MSPV	Medical/Surgical Prime Vendors
MUMPS	Massachusetts General Hospital Utility Multi-Programming System
NCA	National Cemeteries Administration
NCRT	National Contingency Response Tool
NIF	National Item File
NIST	National Institute of Standards and Technology
NPPD	National Prosthetic Patient Database
OIT	Office of Information Technology
OALC	Office of Acquisition Logistics and Construction

Abbreviation	Description
PaaS	Platform as a Service
Pharm-IM	Pharmacy Inpatient Medications
PIP	Prosthetics Inventory Package
PO	Purchase Order
POU	Point of Use
POVIDTS	Prosthetics Order Vendor Interface and Delivery Tracking Solution
PPIS	Pharmacy Perpetual Inventory System
PROSTH	VistA Prosthetics
PSGW	Pharmacy: Auto Replenishment / Ward Stock
RCS	Record Control System
RMF	Risk Management Framework
ROES	Remote Order Entry System
RTLS	Real-Time Location System
SaaS	Software as a Service
SCC	System Control Center Software
SCCOP	Supply Chain Common Operating Picture
SCDIO	Supply Chain Data Information Office
SCIP	Strategic Capital Investment Planning
SCM	Supply Chain Modernization
SCMC	Supply Chain Master Catalog
SDVOSB	Service-connected Disabled Veteran Owned Small Business
SEPG-EER	Strategic Equipment Planning Guide and Enterprise Equipment Request
SFTP	Secure File Transfer Protocol
SMTP	Simple Mail Transfer Protocol
SNOW	Service Now
SoS	Source of Supply
SSOi	Single Sign On Internal
TBD	To Be Determined
TCP	Transmission Control Protocol
TIC	Trusted Internet Connection
TRM	Technical Reference Model
UDI	Unique Device Identifier
VA	Department of Veterans Affairs
VAAR	VA Acquisition Regulations
VAEC	VA Enterprise Cloud
VALIP	VA Logistics Integration Platform
VAMC	Department of Veterans Affairs Medical Center
VBA	Veterans Benefits Administration
VHA	Veterans' Health Administration
VIIATS	Veterans Integrated Implant Application Tracking Solution
VIP	Veterans Integrated Process
VISN	Veterans Integrated Service Network
VNET	Virtual Network

Abbreviation	Description
VOSB	Veteran-Owned Small Business
VPC	Virtual Private Cloud

10 Glossary of Terms

Abbr. or Term	Definition
Amazon Web Services	A comprehensive cloud computing platform provided by Amazon.
Corporate Data Warehouse	A corporate data warehouse is a specific type of data warehouse that provides a central repository for data.
DevSecOps	The DevSecOps framework is a software engineering approach that unifies software development, security, and software operations. It relies on collaboration between the business and the OT organization that develop, deliver, and manage applications for that business.
Defect	Defect is in a problem or issue that causes the software to behave in an inconsistent manner with the requirements or needs of the customer.
Enhancement	Enhancement is a suggestion given to improve the quality of an application, it's an additional feature added to an application as desired by an end user.
Functional Requirements	A Functional Requirement describes the service that the solution offers. It describes a software system or its component. A function is nothing but inputs to the software system, its behavior, and outputs. It can perform calculations, manipulate data, perform business processes, user interaction, or any other specific functionality which defines what function a system may perform. Functional Requirements in Software Engineering are also called Functional Specifications.
Technical Requirements	Technical requirements, in the context of software development and systems engineering, are the factors required to deliver a desired function or behavior from a system to satisfy a user's standards and needs. An example is "the system allows the use of WaveMark Point-Of-Use cabinets in VA cath labs."

Abbr. or Term	Definition

11 Reference Documentation

Table of contents reference	Documentation Hyperlinks	Purpose
I. Introduction	**NA**	**NA**
1. Background	NA	NA
2. Purpose	NA	NA
3. How to use this document	NA	NA
II. Integration Platform	**Documentation Hyperlinks**	**Purpose**
1.VA Enterprise Cloud (VAEC)	VA's Cloud Strategy	This cloud strategy articulates the VAEC vision, goals, and objectives, and outlines derived actions necessary to realize the benefits of a cloud-enabled enterprise. It is intended to inform a broad audience of VAEC consumers and stakeholders. Working together, VA organizations will move forward to realize the Secretary's priority to "modernize our systems," beginning with establishing the VAEC.
2. Integration to SaaS and PaaS	Directive 6517	Establishes policy, roles and responsibilities regarding evaluation for selection of secure cloud computing services for VA.
3. VALIP	VA Software Document Library	Provided redacted documentation on the various nationally released software applications created and/or used by the VA in its mission to provide the best service to our nation's veterans.
III. Interfaces	**Documentation Hyperlinks**	**Purpose**

Table of contents reference	Documentation Hyperlinks	Purpose
1. Production Interfaces	NA	NA
2. VA Environment Evolution (Interface States)	EHRM deployment schedule	VA facilitated engagements between VA stakeholders and Cerner and developed a revised deployment schedule, which leverages the lessons learned from VA's initial operating capability sites and incorporates feedback from facility end-users, VISN leadership, and VHA program offices, including future sites.
IV. Enterprise Data Stores	**Documentation Hyperlinks**	**Purpose**
1. Corporate Data Warehouse (CDW)	NA	NA
2. Enterprise Reporting/Dashboard	NA	NA
3. Data Sharing Resources	Home of Hardhats Around the World!	Hardhats around the world is a site dedicated to fostering a virtual community for the worldwide users of the VistA software. VistA is the comprehensive suite of patient-care software developed by the Department of Veterans Affairs over the past 40 years, and now used by hundreds of enterprises worldwide, in and outside of the VA. At VistA's very core, represented by the shops on the left, you have all the tools and materials you need to build an economical, efficient, scalable and integrated system. Add the VistA applications and you have a complete healthcare system.

Table of contents reference	Documentation Hyperlinks	Purpose
4. Data Storage Requirements	Records Control Schedule	VHA Records Control Schedule that contains retention and disposition requirements for VHA records authorized by National Archives and Records Administration or assigned a General Records Schedules authority.
V. Item Catalog	**Documentation Hyperlinks**	**Purpose**
1. VA Requirements	General Services Administration (2019). Title 48-Federal Acquisition Regulation. General Services Administration.	The Electronic Code of Federal Regulations (eCFR) provides a way of exploring the Code of Federal Regulations as it exists today and at points in time back to January 2017. The eCFR allows you to: - browse the Code of Federal Regulations as it existed at any point in time - compare the regulations as they existed on any two dates - view a timeline of how the CFR content has changed - search for specific terms - subscribe to changes in the regulations The eCFR is not an official legal edition of the CFR. Understanding the eCFR explains its status and the editorial process.
2. Current Technology	VAAR Part 808 Required Sources of Supplies and Services	Office of Acquisition and Logistics (OAL) Priorities for use of mandatory Government sources.

Table of contents reference	Documentation Hyperlinks	Purpose
	See description of Rule of Two and VA mandatory sources	The VA Rule of Two is the process prescribed in 38 U.S.C. 8127(d) whereby a contracting officer of the VA, "shall award contracts on the basis of competition restricted to small business concerns owned and controlled by veterans if the contracting officer has a reasonable expectation that two or more small business concerns owned and controlled by veterans will submit offers and that the award can be made at a fair and reasonable price that offers best value to the United States."
	Information about AbilityOne	The AbilityOne Program is one of the largest sources of employment in the United States for people who are blind or have significant disabilities. Approximately 500 nonprofit organizations employ these individuals and provide quality products and services to the Federal Government at a fair market price.
VI. Agreements & Approvals	**Documentation Hyperlinks**	**Purpose**
1. Authority to Operate (ATO)	VA Knowledge Service	The VA's official site for enterprise Risk Management Framework (RMF) policy and implementation guides. The Office of Information Security (OIS) Knowledge Service (KS) provides cybersecurity practitioners and managers with a single authorized source for execution and implementation guidance, community forms, and the latest information and developments in the RMF.
	VA Authorization Requirements SOP	To obtain and maintain a Department of Veterans Affairs' (VA)Authorization to Operate (ATO), the authorization requirements. Enterprise Mission Assurance Support Service (eMASS), VA's Governance, Risk and Compliance (GRC) tool, is the authoritative management tool for VA's Assessment and Authorization (A&A) process and Risk Management Framework. All systems will be assessed in eMASS by

Table of contents reference	Documentation Hyperlinks	Purpose
		the Risk Review team for an authorization recommendation to be submitted to the Authorizing Official (AO)for final ATO consideration
2. FedRamp	Va Directive 6517 Risk Management Framework for Cloud Computing Services	The Federal Risk and Authorization Management Program (FedRAMP) provides a standardized approach to security authorizations for Cloud Service Offerings.
VII. Compliance	**Documentation Hyperlinks**	**Purpose**
1. Section 508 Accessibility	Comply with Section 508 Accessibility	This goes to government site. Need to add internal link.
2. VA TRM	VA TRM	VA Technical Reference Model V 22.11
3. VA 6500	VA 6500	VA Publications for Cybersecurity, RMF, Mobile Device Security Policy, VA Firewall, Security and privacy into SDLC, Contract Security and Information Systems Contingency Planning.
4. CFR	Code of Federal Regulations	Title 38 of the Code of Federal Regulations covering Pensions, Bonuses, and Veterans' Relief
VIII. Software Development Standards and Best Practice	**Documentation Hyperlinks**	**Purpose**
1. DevSecOps	NA	NA
2. Cloud Smart Strategy	VA's Cloud Strategy	The Department of Veterans Affairs (VA) envisions the VA Enterprise Cloud (VAEC) as a business enabler that will efficiently provide Veterans, their dependents, VA employees and contractors, and VA partners with innovative, Veteran-focused services, applications, and access to information on demand using Veteran-preferred devices and technologies

Table of contents reference	Documentation Hyperlinks	Purpose
3. Human-Centered Design	HCD Design Stage Concept Guide HCD Design Stage Operations Guide HCD Discover Stage Concept Guide HCD Discover Stage Operations Guide	The VA's guides to Human Centered Discovery Concept and Operations and Design Concept and Operations.
4. Standard 508 Compliance	Comply with Section 508 Accessibility Comply with the VA Technical Reference Model (TRM)	VA's site for Section 508 Internet Vision, Mission, About Section 508 and The Role of the Section 508 Office. The VA's Technical Reference Model V 22.11
5. Interoperability	NA	NA
6. ACOE Metrics	NA	NA

Appendix A – Current Prosthetics Supply Chain Ecosystem

As of October 11, 2022

Table 9: VA prosthetics supply chain-related systems

System Acronym	System Name	System Description
4-Sight	4-SIGHT Automated Eyeglass Ordering	4-Sight is an IT and business solution for the VA Prosthetic and Sensory Aids Service (PSAS) that promotes standardization of procurement of eyeglasses for veterans by using data to perform automation actions in VistA. 4-Sight is capable of decreasing the amount of open eyeglass orders; decreasing the amount of open eyeglass orders for greater than 30 days; and reducing the processing time associated with eyeglass ordering for prosthetics.
APAT	Advanced Prosthetics Acquisition Tool	APAT is designed to automate purchasing workflows and streamline the acquisition of prosthetics, orthotics and other sensory aids by the Department of Veterans Affairs (VA) hospitals and medical centers. APAT assists users in expediting the bidding process for the prosthetics department and supports secure electronic document management by helping users scan, index and retrieve purchasing information. APAT enables electronic bid process and purchase order management, provides a full-color graphical user interface (GUI), tracks comprehensive workflow throughout the process, and allows access to standard and ad-hoc reporting capabilities for ongoing order improvement. APAT is an overlay for VistA Prosthetics Package that enforces standard data entry. APAT GUI overlay has user friendly automated data entry capability and enhanced reporting and oversight capability.

System Acronym	System Name	System Description
FLOW3	FLOW3 Enterprise Prosthetic Limb Workflow Management System	FLOW3 is a system of prosthetic limb care that creates a predictable, consistent, and high-quality Veteran experience across VHA. Three inter-related computerized processes support care across the continuum (i.e., From prescription, through acquisition, fabrication, delivery, and validation) as follows: an artificial limb consult template, a consult comment tool (CCT), a web-based dashboard with custom screens for staff members' workflow management. A select VISN and the 7 Regional Amputation Centers will be cohort 1 of the implementation beginning in Q1 FY19. Upon completion of training, the training materials and system documentation will be assessed for effectiveness in getting staff to operationalize. Necessary adjustments to training will be made prior to cohort 2 (number of VISNs TBD) which should begin in Q3 FY19. Cohort 3 which is all remaining VISNs to begin Q1 FY20.

System Acronym	System Name	System Description
NPPD	National Prosthetic Patient Database	The National Prosthetics Patient Database (NPPD) established a central database of Prosthetics data recorded at each Veterans Health Administration facility. Its objective was to enable clinical reviews to increase quality, reduce costs, and improve efficiency of the Prosthetics program. Increase the quality of the services to our Veterans by providing a means to develop consistency in services, review prescription and management practices, develop training, monitor Home Medical Equipment, and measure performance improvements. Reduce costs by comparing costs system-wide, identifying common items for consolidated contracting, identifying costs for Medical Cost Care Funds (MCCF) purposes, and improving contracting cost benefit. Improve efficiency by validating the data, improving budget management, determining where coding errors occur, providing training, and comparing unique patient identifiers for multiple site usage and item issue. The NPPD Menu provides patient information, patient eligibility, Prosthetic treatment, date of provision, cost, vendor, and purchasing agent information. This system tracks average cost data and its usage and provides on both a monthly and quarterly basis detailed and summary reports by station, Veterans Integrated Service Network (VISN) and agency. The NPPD Menu resides in Veterans Health Information Systems and Technology Architecture (VistA) at the medical center level. This data is updated quarterly. Data is rolled up at each facility and transmitted to Hines. The data is then loaded into the CDW from which data extracts are done. The data is also put into a ProClarity cube and is available to VA local, regional, and national managers online. National managers have the ability to properly monitor, oversee and manage the national program and regional managers are able to effectively manage their respective areas using this tool. The primary purpose of this database is to provide financial and clinical oversight of the Prosthetics program and is used primarily by the Prosthetics and Sensory Aids (PSA) including VISN staff, VISN Prosthetics Representatives, Prosthetics Program Managers and other Prosthetics staff.
PIP	Prosthetics Inventory Package	Package used to track consults for equipment and services for veterans that includes ordering capabilities through the use of purchase cards. Add payment capability to the Denver Acquisition and Logistics Center (DALC) and Home Oxygen. PIP is the module that tracks consumable inventory for Prosthetics. Facilities are expected to replace PIP functions with GIP.

System Acronym	System Name	System Description
POVIDTS	Salesforce - POVIDTS	A method to verify and validate vendor receipt of a prosthetics order and a tracking method to validate delivery of the ordered item to the Veteran.
PROSTH	VistA Prosthetics	VistA Application: The Veterans Health Information Systems and Technology Architecture (VistA) Prosthetics (PROSTH) package automates purchasing. The Prosthetics module enhances patient care by determining what prosthetic services and devices have been provided to the veteran in the past, and decreasing the time required for the order, delivery, and/or repair of devices. The Prosthetics package provides control and auditing of expenditures and generates management reports. The Record of Prosthetics Service, VAF 10-2319, and the appropriate IFCAP obligation, are updated at the time of purchase (entry into the computer) of the item or service provided to the veteran. This update is accomplished through direct links to IFCAP and the Electronic Patient VAF 10-2319.
ROES	Remote Order Entry System	The Remote Order Entry System (ROES) is a web-based application and order fulfillment application allowing VHA clinical providers to enter requests for products and services available through the Denver Logistics Center (DLC) and perform other associated functions. ROES is the front end of the DLC's supply chain/order fulfillment system. ROES is available to VHA and DoD clinical staff in designated disciplines (Audiology & Speech Pathology, Prosthetic & Sensory Aids, Orthotic & Prosthetic Labs, Home Telehealth), who place orders for patient care products and services maintained under DLC contracts.

Appendix B – Current NCA Supply Chain Ecosystem

As of October 11, 2022

Table 10: VA NCA supply chain-related systems

System Acronym	System Name	System Description
AMAS	Automated Monument Application System	BOSS-E is a system of systems consisting of 10 VA existing sub-systems that are part of an ongoing application modernization effort. The multi-year goal will be to transition users from these existing Memorials systems by leveraging MBMS, VA systems, and COTS solutions. VA will migrate the functionality of the following mission-critical IT systems into MBMS and then decommission these systems as part of BOSS-E: Burial Operations Support System (BOSS), Automated Monument Application System (AMAS), Eligibility Office Automation System (EOAS), Nationwide Gravesite Locator (NGL), Presidential Memorial Certification (PMC), Daily Burial Schedule (DBS), Kiosk - Nationwide Gravesite Locator (KGL), Memorials Enterprise Fax System (MEFS), Gravesite Assessment Reporting (GAR), Management, Memorials Administration Decision Support System (MADSS).
BOSS-E	Burial Operations Support System - Enterprise	BOSS-E is a system of systems consisting of 10 VA existing sub-systems that are part of an ongoing application modernization effort. The multi-year goal will be to transition users from these existing Memorials systems by leveraging MBMS, VA systems, and COTS solutions. VA will migrate the functionality of the following mission-critical IT systems into MBMS and then decommission these systems as part of BOSS-E: Burial Operations Support System (BOSS), Automated Monument Application System (AMAS), Eligibility Office Automation System (EOAS), Nationwide Gravesite Locator (NGL), Presidential Memorial Certification (PMC), Daily Burial Schedule (DBS), Kiosk - Nationwide Gravesite Locator (KGL), Memorials Enterprise Fax System (MEFS), Gravesite Assessment Reporting (GAR), Management, Memorials Administration Decision Support System (MADSS).

System Acronym	System Name	System Description
		BOSS is an automated information management system designed to improve the processing of data associated with the thousands of burials conducted each year at VA national cemeteries. All 69 active cemeteries have BOSS online to handle the projected increase in veteran burials in our national cemeteries.
MEL	Memorial Enterprise Letters	The Memorial Enterprise Letters (MEL) application allows the National Cemetery Administration (NCA) to use templates to create letters used in the determination of an application for a government headstone, marker, or medallion. NCA Case Managers use these templates to create letters to the next of kin or cemetery providing reasons why their application for the government headstone, marker, or medallion has been suspended or denied. The MEL application also supports a vendor who prints and mails the letters to the recipients. The MEL future state will be replaced by a configurable correspondence engine allowing NCA to build new letter templates and automate business rules for template approval.

Appendix C – Current Pharmacy Supply Chain Ecosystem

As of October 11, 2022

Table 11: VA pharmacy supply chain-related systems

System Acronym	System Name	System Description
N/A	McKesson Inventory Management System	Proprietary system used by pharmacy to track inventory counts
N/A	WorkflowRx	Omnicell WorkflowRx automates the ordering, receiving, stocking, and picking processes. This enables pharmacies to increase pharmacy staff efficiency, automate inventory management, and ensure patient safety
ScriptPro	ScriptPro	ScriptPro Inventory Management (SIM) integrates with the SP Central Workflow System to provide real-time inventory tracking, order generation, electronic transmission, and inventory receiving for outpatient pharmacies. This technology can allocate inventory based on the pending prescriptions in the pharmacy and only decrement inventory on fill. This technology has the ability to assign the same National Drug Code (NDC) to multiple inventories, maintain separate inventory levels and acquisition pricing for the same NDC, and place separate inventory orders by inventory center. Pharmacy automation function could include: Robotic Prescription Dispensing Systems; Pharmacy Management System; Workflow System; Telepharmacy; Third Party Management System; Pharmacy Services Portal (PSP); Perfect Integration; Sterile Room Medication Preparation; Drug Database; and delivery.
PSGW	VistA - Pharmacy: Auto Replenishment/Ward Stock	The Automatic Replenishment/Ward Stock (PSGW) package provides a method to track drug distribution and inventory management within a medical center. The PSGW module is designed to allow each medical center to adapt the system to its own needs.

System Acronym	System Name	System Description
Pharm-IM	VistA - Pharmacy: Inpatient Medications	Combination of Unit Dose Medications and IV Medications and their associated utilities. The Unit Dose (UD) module of Inpatient Medications provides a standard computerized system for dispensing and managing inpatient medications. Timely, accurate, accessible, and up-to-date patient medication information is available from any terminal within the facility. Computer-generated working forms allow personnel to dedicate more time to patient care. Inpatient Medications' Intravenous (IV) module provides pharmacists and their staffs with IV labels, manufacturing worksheets, ward lists for order updates, and management reports. It permits the Pharmacy staff to track the manufacture of IV formulas with greater control than manual procedures allow. Through order entry and ward list updating, the staff can easily establish and maintain an accurate and timely data set of IV orders. A carefully designed set of checks and balances has been incorporated to ensure that the patient is supplied IV solutions quickly and accurately. Inpatient Medications also includes the Pharmacy Interface Automation capability which provides a standard bi-directional HL7 interface to the Pharmacy Automated Dispensing Equipment (PADE), perpetual inventory interfaces to the inpatient drug dispensing cabinets located at the point of care areas such as Inpatient wards.

Appendix D – Current Clinical Tools Supply Chain Ecosystem

As of October 11, 2022

Table 12: VA clinical supply chain-related systems

System Acronym	System Name	System Description
CHI	Cerner HealtheIntent	Near real-time platform enables health care systems to aggregate, transform and reconcile data across the continuum of care, creating a longitudinal health record for individual members of the population that the organization is held accountable for. It enables organizations to identify, score and predict the risks of individual patients, allowing them to match the right care programs to the right individuals, and helps to improve outcomes and lower costs for health and care.
Cerner	Cerner Millenium	Modernized VHA Electronic Health Record in deployment throughout VHA.
VBECS	VistA - Blood Establishment Computer Software	The VistA Blood Establishment Computer Software (VBECS) is a Blood Bank application system. The purpose of VBECS is to automate the daily processing of blood inventory and patient transfusions in a hospital transfusion service. VBECS facilitates ongoing compliance with Food and Drug Administration (FDA) standards for medical devices and enhances the Veterans Health Administration's (VHA's) ability to produce high-quality blood products and services to veterans. The system follows blood bank standards, standards of national accrediting agencies, FDA regulations, and VA policies.

System Acronym	System Name	System Description
CPRS	VistA - Computerized Patient Record System	CPRS is a graphical user interface application that communicates with VistA via remote procedure calls. The CPRS application provides users a view of VistA data. The application displays Protected Health Information and Personally identifiable information (PHI/PII) data, but all PHI/PII data is stored in VistA. The CPRS application enables clinicians to enter, review, and continuously update all order-related information connected with any patient. With CPRS, you can order lab tests, medications, diets, radiology tests and procedures, record a patient's allergies or adverse reactions to medications, request and track consults, and enter progress notes, diagnoses, and treatments for each encounter, and enter discharge summaries. Close integration with the Clinical Reminders and Text Integration packages allows better record keeping and compliance with Clinical Guidelines and medical record requirements. CPRS not only allows hospital personnel to keep comprehensive patient records, it also enables clinicians, managers, and QA staff to review and analyze the data gathered on any patient in a way that directly supports clinical decision-making.

Appendix E – Current POU Supply Chain Ecosystem

As of October 11, 2022

Table 13: VA POU supply chain-related systems

System Acronym	System Name	System Description
OmniCell S-POU	Omnicell Supply Point of Use Cabinet	Automated Supply POU inventory management technology system that uses smart cabinets, shelves, and bins to capture data related to end user usage, stock replenishment, and other on-hand inventory management related transactions at supply distribution points at VAMCs and CBOCs in an expendable (EX). Omnicell Sup POUs are cabinets that can be locked and secured. They are typically located in or near areas where patients receive clinical services but can also be used in a medical supply closet, room, or warehouse. This technology system is used to assist management staff with automation of the daily on-hand inventory management of EX supplies and requires an authorized clinician or staff member to log in and retrieve supplies for patient care. The technology communicates inventory and stock level updates to GIP and DMLSS. It is currently in use at many VA medical centers (VMAC) and Community Based Outreach Clinics (CBOC). They consist of commercially developed "smart" supply cabinets, bins, shelves, and management systems.
PAR	Periodic Automatic Replacement (PAR) Excellence	The automated, weight-based inventory management system will assist management staff with the daily management of expendable supplies in all primary and secondary distribution points across the medical center by providing real-time inventory and stock level updates to GIP using weight-based technology.

System Acronym	System Name	System Description
POU FoS	Point of Use Family of Systems (Omnicell, Pyxis, Par Excellence)	The POU Family of Systems (FoS) refers to those supply chain technologies needed in the inventory cycle where the on-hand consumable supply inventory is tracked, stored, retrieved, and distributed by medical staff for use in patient care. PoU systems are typically located in or near areas where patients receive clinical services. PoU systems are considered secondary inventory points in the Generic Inventory Package (GIP). The PoU FoS use of Radio Frequency Identification (RFID), Real Time Location System (RLTS), calibrated weight based tracking, and other Information Technology (IT) based methodologies allows for automated inventory control, periodic automatic replenishment (PAR), and centralized supply visibility, tracking, and management. The supply chain management Systems Directorate does not currently include pharmacy / medication type PoU Systems within the scope of the PoU FoS, as these are managed as a separate program. PoU FoS is an information technology (IT) based consumable supply inventory system of systems that are currently in use at most VA medical centers (VMAC) and Community Based Outreach Clinics (CBOC). They consist of commercially developed supply cabinets, bins, shelves, and management systems including Omnicell, WaveMark, Pyxis, and PAR Excellence products. Currently, the PoU FoS, interfaces with existing VA systems such as Veterans Information Systems and Technology Architecture (VistA) and GIP, with planned future interoperability with the Defense Medical Logistics Standard Support (DMLSS) and the EHRM systems. The end result of these benefits is substantially increased efficiency in on-hand inventory management of consumable supplies and enhanced logistic support to clinicians providing on-time availability of medical supplies improving healthcare to the Veteran.

System Acronym	System Name	System Description
Pyxis Sup POU	Pyxis Supply Point of Use Cabinet	CareFusion - An automated Supply POU inventory management technology system that uses smart cabinets, shelves, and bins to capture data related to end user usage, stock replenishment, and other on-hand inventory management related transactions at supply distribution points at VAMCs and CBOCs in an expendable (EX). Pyxis Sup POUs are cabinets that can be locked and secured. They are typically located in or near areas where patients receive clinical services but can also be used in a medical supply closet, room, or warehouse. This technology system is used to assist management staff with automation of the daily on-hand inventory management of EX supplies and requires an authorized clinician or staff member to log in and retrieve supplies for patient care. The technology communicates inventory and stock level updates to GIP and DMLSS. It is currently in use at many VA medical centers (VMAC) and Community Based Outreach Clinics (CBOC). They consist of commercially developed "smart" supply cabinets, bins, shelves, and management systems.
TrackCore	Tissue and Implant Tracking and Inventory Management System	Inventory system used to gather biological and non-biological implant data for VA. Not fully deployed to all sites and two different systems are currently in use.
N/A	UDI Tracker	Inventory system used to gather biological and non-biological implant data for VA. Not fully deployed to all sites and two different systems are currently in use.

System Acronym	System Name	System Description
VIIATS	Veterans Integrated Implant Application Tracking Solution	Veterans Integrated Implant Application Tracking Solution, formerly Champion Healthcare Technologies, is an Application Service Provider (ASP) that provides an application via the software as a service (SaaS) model but is not a Cloud Service Provider (CSP). Champion does not use the cloud to store or process data. All data and application code is stored on dedicated, private servers that are not internet-searchable. All customer information is contained within its own isolated database, never intermingled with other customers. In addition, each customer has their own customized web address to access their version of the application. The system provides a solution for tracking of all implantable items both biological and non-biological in compliance with the FDA UDI ruling and Joint Commission Guidelines. Items are tracking using 2d or 3d barcode scanning through the entire medical facility from the time they are shipped from the company to usage or discarded and into the recall process of possible. It also provides Just In Time inventory tracking as well as analytics with the program

Appendix F – Current Acquisition / Financial Supply Chain Ecosystem

As of October 11, 2022

Table 14: VA Acquisition / Financial supply chain-related systems

System Acronym	System Name	System Description
ARM	Acquisition Review Module	Part of the eCMS system. eCMS provides tools and functionality to assist VA Acquisition staff in managing contracts in compliance with the FAR, the VAAR, and VA acquisition best practices. ARM provides final review before acquisition completion.
BTT	Budget Tracking Tool	The Budget Tracking Tool (BTT), an integrated enterprise-wide budget planning, management and reporting system, was used to plan the annual budget at the obligation level and to manage execution and funds resource allocation through the end of the year. BTT springs from HPTi which was High Performance Technologies Inc., the original company that developed the application. HPTi was acquired by DRC a few years ago, which was then acquired by Engility. Current documentation in the code for the FMS interface with BTT still refers to HPTi and HPT. BTT takes a daily download (in the morning hours) from FMS that helps us track our detailed budget operating plan (a detailed spend plan) of about 4,000 non-pay lines plus the pay data by BOC/SOC. The flat file is processed as soon as it arrives by an automated job that goes line by line and inserts it into the main application database. Strict adherence to the file format is necessary for processing to succeed.
CAATS	Centralized Administrative Accounting Transaction System	CAATS is a web-based automated system that allows for the electronic input and approval for accounting source document/transaction, improvement of internal controls standardization of accounting entries, electronic audit trail, and separation of duties. It is the central interface to the Financial Management System (FMS) for both Veterans Benefits Administration (VBA) and National Cemetery Administration (NCA). There are currently 18 modules in CAATS. NOTE: iFAMS will replace this current capability and VA will decommission CAATS once it's replaced.

System Acronym	System Name	System Description
CPRC	Clinical Product Review Committee Portal	The Clinical Product Review Committee Portal provides VHA facilities with a nationally standardized online tool and processes for submitting and reviewing requests for new commodities/supplies. VHA uses the tool's data to inform improvement efforts for supply chain and contracting operations.
ECAT	Electronic Catalog	Internet solution that uses the latest technology for ordering, distribution, and payment, providing Department of Defense and other Federal agencies access to multiple manufacturers and distributors' commercial catalogs at discounted prices.
eCMS/AES	Electronic Contract Management System/Acquisition Enterprise Systems	Electronic Contract Management System (eCMS) provides tools and functionality to assist VA Acquisition staff in managing contracts in compliance with the FAR, the VAAR, and VA acquisition best practices. It is designed to optimize the workflow necessary to complete acquisitions in the most timely and cost-efficient manner, and to ensure VA administrations and staff offices are able to obtain the products and services that will best meet their needs in accomplishing the VA mission. AAMS uses clause logic to build contracting documents verbiage and schedule and has functionality to allocate line items to accounting strings.
ECB	Electronic Commerce Branch	Invoice submission system used by vendors that are transferred to IPPS. ECB enables Vendors to submit invoices to VAFSC for processing and allow the Contract Office to review and approve invoices online.
FMS	Financial Management System	The Financial Management System (FMS), VA's Corporate accounting system, was fully implemented in VHA at the beginning of FY 1996. VA's FMS system is a standardized, VA-wide system that interfaces externally with the Department of Treasury (DoT), the General Service Administration (GSA), the Internal Revenue Service (IRS), the Defense Logistics Agency (DLA), and various commercial vendors and banks for electronic billing and payment purposes. It is VA's core financial management system that interfaces internally with the IFCAP Accounts Receivable system and other subsystems such as Integrated Billing.
FORCE	Forecast of Opportunities Requirements Center of Excellence	Used by Contracting to identify opportunities. Used in conjunction with eCMS and planned for replacement with the acquisition module of iFAMS.

System Acronym	System Name	System Description
iFAMS	Integrated Financial Acquisition System	The U.S. Department of Veterans Affairs (VA) Office of Finance (OF), Office of Financial Solutions (OFS) established the Financial Management Transformation Service (FMTS) to lead the Department's Financial Management Business Transformation (FMBT) program. The FMBT program vision is to provide VA with a modern financial and acquisition management solution with transformative business processes and capabilities that enable VA to meet its goals and objectives in compliance with financial management legislation and directives. Using the CGI Momentum Financials solution, the financial system transformation effort will increase the transparency, accuracy, timeliness and reliability of financial information resulting in improved fiscal accountability to American tax payers and offers a significant opportunity to improve care and services to our Veterans.VA is working to implement an enterprise-wide solution known as the Integrated Financial and Acquisition Management System (iFAMS), which will enable VA to improve service to Veterans, increase innovation, and enhance data integrity. The VA Office of Information and Technology (OIT) and the VA OALC are working with the VA CFO team. OI&T will focus on VA interfaces and any touch points that interact with systems, and OALC will provide hands-on support for acquisition integration and data migration. The FMBT program intends to transition VA from its existing core Financial Management System (FMS) and Automated Acquisition Management Solution (AAMS) (a component of the Electronic Contract Management System (eCMS) suite) to iFAMS, integrating Financial and Acquisition data management.
IFCAP	VistA - Integrated Funds Distribution, Control Point Activity, Accounting and Procurement	IFCAP is a VistA application that automates several financial and logistics activities. IFCAP is used to manage budgets, order goods and services, maintain records of available funds, determine request status, compare vendors and items, record receipt of items into the warehouse, and pay vendors. IFCAP maintains an interface from FMS and an indirect interface to FMS through GECS. IFCAP's primary functions include Funds Control, Requisition and Awards, Supports GIP for inventory replenishment, Support PIP for inventory replenishment, Property Management via the AEMS/MERS sub-system, Supports BeneTravel, VistA AR, and VistA Surgery.

System Acronym	System Name	System Description
IFRR/INRR	IFCAP Non-Federal Receiving Reports / IFCAP Federal Receiving Reports	VA's IFCAP IFFR/INRR reports are managed and maintained by the VA Financial Services Center (FSC). FSC is a field or hosting site of the Office of Financial Systems and Operations located in Austin, Texas. VA-IFRR/INRR reports, provide a centralized collection point for reports from distributed instances of IFCAP, i.e., reports about supply items received as related to orders of supply.
IPPS	Invoice Payment Processing System	Invoice Payment Processing System (IPPS) receives electronic invoice data and provides approval/acceptance workflow and FMS payment transaction creation. IPPS is an internet portal for invoice processing. Instated in 2014, IPPS is an enterprise-level payment system that handles as many types of payments as possible and is primarily used to handle VA payments to commercial vendors. Benefit payments are processed in VBA systems. Payments to government entities are processed through IPAC with the exception of the Postal Service. We capture maximum dollar savings processing payments for those invoices requiring a receiving report with prompt and accurate service. We offer our innovative On-Line Certification System (OLCS) in conjunction with our certified invoice payment processing to provide you with the most reliable and efficient payment processing services. FSC's payment services allow you to work more efficiently and effectively within your organization. These are just a few reasons to do business with us: Full compliance with the Prompt Payment Act and OMB Circular A-123 Internal Control Management ensuring your payments are made correctly. The On-Line Certification System (OLCS) allows our customers to electronically certify invoices via the Intranet. Post Audit services on statistically selected invoices.
NIF	National Item File	The NIF application and servers are used to standardize Item Master File Records within each facility's individual IFCAP System. The NIF application utilizes a set format noun, adjective and salient characteristics structure to provide standardized nomenclature for items. It also maintains manufacturer and manufacturer part, vendor/distributor and vendor stock number, and contract information for items. Much of this can be provided to the sites via the new interface. The international United Nations Standardized Products and Services Code (UNSPSC) standard provides classification of items in a hierarchical pyramid. The VHA Procurement and Logistics Office / 10NA2 uses this application to assist in syncing data between each of the individual IFCAP instances and providing national oversight of supply purchasing and inventory.

System Acronym	System Name	System Description
NAC_CM	NAC Contract Management	System used by the National Acquisition Center to manage the contracts they award, including the pharmaceutical item management required in support of the interface to the VA pharmaceutical prime vendor. The front end is written in a combination of vb.net and C#.net and the backend is a SQL database.
SCIP	Strategic Capital Investment Planning	The Strategic Capital Investment Planning (SCIP) tool has been in its O&M lifecycle since 2012. SCIP is one of two tools required to support Mission Act direction to VA, addressing assessment of VA healthcare markets, current capacity, performance, and condition of facilities, and future opportunities for improvement. It is the only tool to support VHA's outyear planning and budgeting needs for hospitals, clinic, medical centers, and other facilities.

Appendix G – Current Combination Acquisition / Financial and Inventory / Asset Management Supply Chain Ecosystem

As of October 11, 2022

Table 15: VA combination of Acquisition / Financial and Inventory / Asset Management supply chain-related systems

System Acronym	System Name	System Description
DMLSS	Defense Medical Logistics Standard Support	An information technology system within the Defense Medical Logistics - Enterprise Solution (DML-ES) portfolio. VALOR - VA Logistics Redesign (VALOR) consists of the Department of Defense (DoD) DMLSS and its successor, LogiCole. The DML-ES portfolio provides a continuum of medical logistics support for the Defense Health Agency (DHA). DMLSS supports all medical logistics functions in the Military Health System. DMLSS delivers an automated and integrated information system with a comprehensive range of medical logistics management functions. It is a local server-based application that supports medical logistics functions internal to a military treatment facility (MTF), deployed MTFs and War Reserve Management sites. DMLSS supports all local medical logistics business practices including catalog research and purchase decisions, customer inventory management, medical inventory management, biomedical equipment maintenance, property management, facility management, assemblage management, plus distribution and transportation functions. Deployed within VHA at the Captain James A Lovell Federal Health Care Center in North Chicago, IL.

System Acronym	System Name	System Description
SCMC	Supply Chain Master Catalog	Supply Chain Master Catalog is a Software as a Service (SaaS) searchable catalog solution that will contain all VA medical commodity, prosthetic device (to include durable medical equipment), expendable equipment, non-expendable, and non-clinical products that can be used by all employees. This solution will serve as the single source of truth for all stated items by harmonizing contract information from VA and other approved Federal contract offices.
RTLS	Real Time Location System	An umbrella term that includes multiple technologies for locating and tracking items. It includes Wi-Fi based location finding, active and passive Radio Frequency Identification (RFID), and many other location technologies such as infrared and electrochemical/electro-erosion markings. Multiple tags and technologies are deployed to meet specifications and specialized needs. Significant potential uses and benefits of this technology throughout VA are numerous and include improved quality of patient care and satisfaction, reduced health care asset management costs, improved capacity/resource planning, improved employee, and patient safety, and improved general asset management and inventory. The RTLS solution is comprised of multiple applications impacting the Logistics Supply Chain, inventory accountability, Biomedical Engineering, Office of Information Technology, Sterile Processing, Dental and Surgical Services, Cardiac Catherization Lab, and a host of other clinical departments. The VA's RTLS asset tracking application reduces the asset management workload of VA clinical staff by reducing inventory methods through automated tracking of critical medical devices and other assets. In addition, the RTLS Cath Lab application provides automated tracking of high dollar, high use supplies in the Cardiac Catherization Lab, thereby reducing operation supply costs. The RTLS Program is an integrated, enterprise-wide solution. The RTLS solution is a system of systems (SoS). An SoS integrates independently useful systems into a larger system that delivers unique capabilities. Each RTLS application is a disparate Original Equipment Manufacturer (OEM) software and hardware solution that integrates and sits inside the VA firewall with interfaces to VA owned and OEM software applications. The RTLS applications are deployed to more than 175 VA medical centers and Community-Based Outpatient Clinics (CBOCs) locations.

System Acronym	System Name	System Description
SEPG-EER	Strategic Equipment Planning Guide – Enterprise Equipment Request (Cloud)	The SEPG-EER tool integrates two legacy applications into one application tool. The Strategic Equipment Planning Guide (SEPG) portion of the application is an important part of equipment life cycle management. It is an equipment planning portal and form tool that allows VHA medical centers and stations the ability to efficiently identify equipment critical needs, select required equipment and technology, perform budgeting and financial planning, and plan new equipment acquisition deployment for given fiscal years where stations are deficient of the required equipment quantity to meet their mission. The SEPG is vital to ensure consistent equipment availability, provide efficient allocation of resources, promote accurate demand planning, facilitate equipment cost reduction, and enhance proper management of facility equipment. The EER portion of the application uses the SEPG equipment approval, or a manually input emergency request for equipment in an enterprise-wide equipment request portal for use in VHA facilities to request, review and approve new equipment acquisitions. EER allows for attachment of supporting documentation, including vendor quotes, market research, approvals, and other required contracting paperwork. EER provides the workflow needed by facility Equipment Committees or the Equipment Life Cycle Management Directorate to make informed decisions for local or national approval and investment of funds. The SEPG-EER is deployed and hosted on the VA-Enterprise Cloud (Azure).

Appendix H – Current Inventory / Asset Management Supply Chain Ecosystem

As of October 11, 2022

Table 16: VA inventory / asset management supply chain-related systems

System Acronym	System Name	System Description
AEMS/MERS	Automated Engineering Management System/Medical Equipment Reporting System	VistA application that facilitates the management of information needed to effectively discharge key operational responsibilities normally assigned to VA engineering organizations. It includes equipment management, work control, space/facility management, project planning and submission, and project tracking.
APAR / GIP	Above PAR Enterprise Reporting (APAR-ER) / Generic Inventory Package (GIP)	A VistA integrated software module that streamlines workflows based on VistA AEMS/MERS and Generic Inventory Package (GIP) VistA Software.
N/A	Assetworks / BarTender	Asset works provides passive RFID capabilities in VISN 20. BarTender is a barcode printing system used in VISN 20.

System Acronym	System Name	System Description
EAWM	MAXIMO Enterprise Asset and Work Management	The MAXIMO Enterprise Asset and Work Management System - formerly called SOARD - provides the Veterans Health Administration (VHA) modernized and integrated asset management capability. This capability includes the ability to perform SERVICE & MAINTENANCE requisitioning, work order management, inventory management, facilities management, equipment management, and related workforce management. This capability enhances the VHA's ability to serve Veterans by creating and maintaining an effective, integrated, Administration-wide management capability to make data-driven decisions, allocate resources, and manage results. The crux of the SOARD system is IBM's Maximo EAM Commercial Off-the-Shelf (COTS) solution. The software is an intranet web-based application that is entirely contained within the VA Wide Area Network (WAN). The Maximo product delivers Out of the box (OOB) capabilities, and only cosmetic changes to screen layout have been tailored to VA preference. The underlying Oracle database easily accommodates new data fields and has been expanded to include relevant VA data fields unique to our mission (e.g., EIL, CMR, VA MDNS, etc.).
EQUIP	VistA - Equipment/Turn-In Request	The Equipment/Turn-In Request (EQUIP) software provides additional functionality within the IFCAP package, including the ability to enter an electronic request for new, non-expendable equipment and replacement equipment. It adds the functionality for tracking the request through the many stages of review, prior to its approval and becoming a permanent transaction. Users are allowed to turn in old equipment currently tracked in the Equipment Inventory file, generate an Engineering work order, and track its movement to its final disposition and removal from the inventory list. The Equipment/Turn-In Request (EQUIP) serves as a records maintenance system, allowing the user to record important events throughout the ordering process. Such records can be printed in report format as supporting documentation about the equipment life cycle.
LHIT	Logistics Handheld Inventory Technology	Barcode scanners used to communicate the barcode location and item quantity to the existing supply chain management system.

System Acronym	System Name	System Description
NCRT	National Contingency Response Tool	The National Contingency Response Tool (NCRT) provides Facility CSCOs and approved users with a centralized location to request critical supplies for emergencies and unexpected supply needs through the Emergency Management Coordination Cell (EMCC) and review the status of those requests. It also creates a single location for VISN CSCOs and approved users to approve, revise, and reject (as needed) facilities' requests before they are submitted to the EMCC.
N/A	Nuvolo	Custom add-on to Service Now that allows for work order management, preventive maintenance, spare parts inventory and inspections, in limited use in VISNs 2 and 20.
SCLogic	SCLogic	Warehouse inventory receipt and location tracking system in limited use in VHA.
SCC	System Control Center Software	Control of a pneumatic tube system used to deliver small items throughout a facility. This is an automated delivery system for lab reports, medications, scans, etc. It sends these in in a tube throughout the hospital, and a server is needed to help track access for retrieving the capsule, tracking deliveries, and control access. The server will run the VA gold imaged and use the baseline configuration.
SNOW	Service Now	ServiceNow is a single, unified platform with a shared data model. ServiceNow is a SaaS and Platform-as-a-Service (PaaS) with strong origins in IT Service Management anchored to the ITIL framework. ServiceNow data resides in a FedRAMP approved Cloud environment.

Appendix I – Current Analytics Tools Supply Chain Ecosystem

As of October 11, 2022

All POU cabinets contain their own analytics software.

Table 17: VA analytics tools supply chain-related systems

System Acronym	System Name	System Description
N/A	Dashboards (all)	SCCOP – Supply Chain Common Operating Picture - PowerBI dashboard that presents data in CDW in a format defined for use by VHA supply chain staff. SCDIO – Supply Chain Data Information Office – area of P&LO that develops analytics tools for use by VHA supply chain professionals. HTM KPI – Healthcare Technology Management, Key Performance Indicators – Purchase Card analytics – dashboard specific to pcard use in VHA. IIC - IT Inventory Compliance Portal
Feith	Feith Document Database	Feith Document Database (FDD) is the power client application for accessing documents in the FDD system. The FDD client allows users to scan or import pages into the system, and pages can be brought in through Feith COLD, Feith Forms iQ, Feith VIP, or Feith Microsoft Office Integration. The pages are indexed permanently into a file cabinet with key pieces of information called `index values` that identify the document to be found later.
IDEA	Innovation, Development, and Evolution Applications	A group of custom web applications and reporting systems for procurement and logistics business operations. Includes around 30 applications.

System Acronym	System Name	System Description
IPSM-MVP	Ipsos Print, Scan, Mail	Ipsos is a service that gathers and analyzes important information to help administrators recognize emerging trends and make informed decisions. The research can be targeted to specialized groups and narrow market segments, or performed on a much broader scale for across-the-board, big picture analysis. Ipsos can also gather and interpret the data to make recommendations on next steps.

Appendix J – Interface state possibilities

The following tables contain interface state combinations beginning with the initial states, through Oracle-Cerner initial and final capability sets (with the expectation that intermediate capability sets exist) and with an approved SCM solution.

Table 18: Interface state combinations with initial Oracle-Cerner capability set

State # / Systems Used	EHRM			Supply Chain Management			Financial Management		Contracting	
	Exist-ing	Oracle-Cerner / Existing *	Oracle-Cerner	Existing / AEMS-MERS	Existing / Maximo	Existing / DMLSS	Exist-ing	iFAMS	eCMS	iAcq **
1-all existing – starting point for all sites	X	-	-	X or	X or	X	X	-	X	-
2-Existing EHRM; AEMS/MERS; IFAMS; eCMS	X	-	-	X	-	-	-	X	X	-
3-Existing EHRM; Maximo; iFAMS; eCMS	X	-	-	-	X	-	-	X	X	-
4-Existing EHRM; DMLSS; iFAMS; eCMS	X	-	-	-	-	X	-	X	X	-
5-Cerner-1; AEMS/MERS; iFAMS; eCMS	-	X	-	X	-	-	-	X	X	-
6-Cerner-1; Maximo; iFAMS; eCMS	-	X	-	-	X	-	-	X	X	-
7-Cerner-1; DMLSS; iFAMS; eCMS	-	X	-	-	-	X	-	X	X	-
8-Cerner-1; AEMS/MERS; Existing Finance; eCMS	-	X	-	X	-	-	X	-	X	-

State # / Systems Used	EHRM			Supply Chain Management			Financial Management		Contracting	
	Exist-ing	Oracle-Cerner / Existing *	Oracle-Cerner	Existing / AEMS-MERS	Existing / Maximo	Existing / DMLSS	Exist-ing	iFAMS	eCMS	iAcq **
9-Cerner-1; Maximo; Existing Finance; eCMS	-	X	-	-	X	-	X	-	X	-
10-Cerner-1; DMLSS; Existing Finance; eCMS	-	X	-	-	-	X	X	-	X	-
11-Cerner-1; AEMS/MERS; iFAMS; iAcq	-	X	-	X	-	-	-	X	-	X
12-Cerner-1; Maximo; iFAMS; iAcq	-	X	-	-	X	-	-	X	-	X
13-Cerner-1; DMLSS; iFAMS; iAcq	-	X	-	-	-	X	-	X	-	X
14-Existing EHRM; AEMS/MERS; iFAMS; iAcq	X	-	-	X	-	-	-	X	-	X
15-Existing EHRM; Maximo; iFAMS; iAcq	X	-	-	-	X	-	-	X	-	X
16-Existing EHRM; DMLSS; iFAMS; iAcq	X	-	-	-	-	X	-	X	-	X
17-Cerner-1; AEMS/MERS; iFAMS; iAcq	-	X	-	X	-	-	-	X	-	X
18-Cerner-1; Maximo; iFAMS; iAcq	-	X	-	-	X	-	-	X	-	X
19-Cerner-1; DMLSS; iFAMS; iAcq	-	X	-	-	-	X	-	X	-	X

*Oracle-Cerner deployment has dependence on the existing VistA EHRM. Cerner-1 has initial dependence
**iACQ=iFAMS acquisition/contracting module

Table 19: Interface state combinations with the final Oracle-Cerner capability set

State # / Systems Used	EHRM			Supply Chain Management			Financial Management		Contracting	
	Exist-ing	Oracle-Cerner / Existing *	Oracle-Cerner	Existing / AEMS-MERS	Existing / Maximo	Existing / DMLSS	Exist-ing	iFAMS	eCMS	iAcq **
20-Cerner-2; AEMS/MERS; iFAMS; eCMS	-	-	X	X	-	-	-	X	X	-
21-Cerner-2; Maximo; iFAMS; eCMS	-	-	X	-	X	-	-	X	X	-
22-Cerner-2; DMLSS; iFAMS; eCMS	-	-	X	-	-	X	-	X	X	-
23-Cerner-2; AEMS/MERS; Existing Finance; eCMS	-	-	X	X	-	-	X	-	X	-
24-Cerner-2; Maximo; Existing Finance; eCMS	-	-	X	-	X	-	X	-	X	-
25-Cerner-2; DMLSS; Existing Finance; eCMS	-	-	X	-	-	X	X	-	X	-
26-Cerner-2; AEMS/MERS; iFAMS; iA	-	-	X	X	-	-	-	X	-	X
27-Cerner-2; Maximo; iFAMS; iA	-	-	X	-	X	-	-	X	-	X
28-Cerner-2; DMLSS; iFAMS; iA	-	-	X	-	-	X	-	X	-	X
29-Cerner-2; AEMS/MERS; iFAMS; iA	-	-	X	X	-	-	-	X	-	X
30-Cerner-2; Maximo; iFAMS; iA	-	-	X	-	X	-	-	X	-	X
31-Cerner-2; DMLSS; iFAMS; iA	-	-	X	-	-	X	-	X	-	X

*Oracle-Cerner deployment has dependence on the existing VistA EHRM. Cerner-1 has initial dependence
**iACQ=iFAMS acquisition/contracting module

Table 20: Interface state combinations with the approved SCM solution

State # / Systems Used	EHRM			Supply Chain Management	Financial Management		Contracting	
	Existing	Oracle-Cerner / Existing*	Oracle-Cerner	Approved Solution	Existing	iFAMS	eCMS	iAcq**
32-Existing EHRM; Approved SCM; IFAMS; eCMS	X	-	-	X	-	X	X	-
33-Cerner-1; Approved SCM; iFAMS; eCMS	-	X	-	X	-	X	X	-
34-Cerner-1; Approved SCM; Existing Finance; eCMS	-	X	-	X	X	-	X	-
35-Cerner-1; Approved SCM; iFAMS; iAcq	-	X	-	X	-	X	-	X
36-Existing EHRM; Approved SCM; iFAMS; iAcq	X	-	-	X	-	X	-	X
37-Cerner-1; Approved SCM; iFAMS; iAcq	-	X	-	X	-	X	-	X
38-Cerner-1; Approved SCM; iFAMS; iAcq	-	X	-	X	-	X	-	X
39-Cerner-1; Approved SCM; iFAMS; iAcq	-	X	-	X	-	X	-	X
40-Cerner-2; Approved SCM; Existing Finance; eCMS	-	-	X	X	X	-	X	-

State # / Systems Used	EHRM			Supply Chain Management	Financial Management		Contracting	
	Existing	Oracle-Cerner / Existing*	Oracle-Cerner	Approved Solution	Existing	iFAMS	eCMS	iAcq**
41-Cerner-2; Approved SCM; iFAMS; eCMS	-	-	X	X	-	X	X	-
42-Cerner-2; Approved SCM; iFAMS; iAcq	-	-	X	X	-	X	-	X

*Oracle-Cerner deployment has dependence on the existing VistA EHRM. Cerner-1 has initial dependence
**iACQ=iFAMS acquisition/contracting module

Appendix K – Data Retention Requirements (most relevant)

Summarized from the RCS 10-1, Chapter 5, sections 5020 Logistics and Facilities.

Table 21: Most relevant data retention requirements from RCS 10-1, Ch. 5, Section 5020

Item Number	Records Description	Disposition Instructions
5020.1	Facility, Space, Vehicle, Equipment, Stock, and Supply Administrative and Operational Record (3 exclusions)	**Temporary.** Destroy when 3 years old or 3 years after superseded, as appropriate, but longer retention is authorized if required for business use
5020.2	Real Property Ownership Records (2 exclusions)	**Temporary.** Transfer to new owner after unconditional sale or Government release of conditions, restrictions, mortgages, or other liens
5020.3	Vehicle and Equipment Ownership Records and Operations Manuals	**Temporary.** Transfer with vehicle or item to new owner or destroy when item is excessed, as appropriate
5020.4	Excess Personal Property, Equipment, and Vehicle Records	**Temporary.** Destroy when 3 years old, but longer retention is authorized if required for business use
5020.5	Facility Design, Engineering, and Construction Records 1. Draft 2. Final	**Temporary.** Destroy when superseded, or when project terminates, as appropriate **Temporary.** Destroy when superseded, or transfer to new owner, or destroy when structure is removed from Federal inventory, as appropriate

Item Number	Records Description	Disposition Instructions
5020.6	Facility Design, Engineering, and Construction Operations Records	**Temporary.** Destroy 5 years after project completion or termination, but longer retention is authorized if required for business use
5020.7	Facility, Space, and Equipment Inspection, Maintenance, And Service Records a. Inspections, maintenance, service, and repair activities relating to buildings, grounds b. Completion of custodial and minor repair work	**Temporary.** Destroy when 3 years old, but longer retention is authorized if required for business use **Temporary.** Destroy when 90 days old, but longer retention is authorized if required for business use
5020.8	Housing Rental and Lease Records	**Temporary**. Destroy 3 years after lease termination, lapse, reassignment, rejection of application, cancellation of lease, or conclusion of litigation, as applicable
5020.9	Land Vehicle and Water Vessel Inspection, Maintenance, and Service Records (1 exclusion)	**Temporary.** Destroy when 3 years old, but longer retention is authorized if required for business use. Transfer of extant records to new owner at sale or donation is authorized
5020.10	Aircraft Inspection, Maintenance, and Modification Records	**Temporary.** Destroy 6 years after disposing of aircraft or removing equipment from inventory, but longer retention is authorized if required for business use
5020.11	Vehicle and Heavy Equipment Operator Records	**Temporary.** Destroy 3 years after separation of employee or 3 years after rescission of authorization to operate vehicles or equipment, whichever is sooner

Item Number	Records Description	Disposition Instructions
5020.12	Aircraft Flight Operations Records	**Temporary.** Destroy when 3 years old, but longer retention is authorized if required for business use
5020.13	Aircraft Operational Support Records	**Temporary.** Destroy when 6 years old, but longer retention is authorized if required for business use
5020.14	Vehicle and Vessel Accident and Incident Records (1 exclusion)	**Temporary.** Destroy 3 years after case is closed, but longer retention is authorized if required for business use

Summarized from the RCS 10-1, Chapter 5, section 5700 'Office of Acquisition and Material Management'

Table 22: Most relevant data retention requirements from RCS 10-1, Ch. 5, Section 5700

Item Number	Records Description	Disposition Instructions
5700.1	Purchase Order Register	**Temporary.** Destroy 2 years from date of register
5700.2	Schedule File	**Temporary.** Destroy 3 months after expiration or cancellation of contract
5700.3	Contract File (On Site Audit) a. Procurement or purchase organization copy, and related papers b. Obligation Copy c. Other copies of records described above used by component elements of a procurement office for administrative purposes d. Data submitted to the Federal Procurement Data System	**Temporary.** Destroy 6 years after final payment or cancellation, but longer retention is authorized if required for business use Rescinded per GRS Transmittal 23 **Temporary.** Destroy when business use ceases **Temporary.** Destroy 6 years after final payment or cancellation, but longer retention is authorized if required for business use

Item Number	Records Description	Disposition Instructions
5700.4	Vendor Performance File	**Temporary.** Destroy after 2 years from completion of contract, or 2 years after vendor becomes inactive in bidding (whichever comes first)
5700.5	Form/Form Letter/Publication File	**Temporary.** Destroy after 1 year after supersession or deletion
5700.6	Forms and Publications Requests File	**Temporary.** Destroy 6 years after final payment or cancellation, but longer retention is authorized if required for business use
5700.7	Shipments Not Covered by Bill of Lading Register	**Temporary.** Destroy 2 years after date of final entry on register
5700.8	Supply Processing and Distribution (SPD) Requisition File	**Temporary**. Destroy after 30 days
5700.9	Master Item List File	**Temporary.** Destroy after 36 months
5700.10	Sterilization Record File	**Temporary.** Destroy after 36 months
5700.11	Tray Layout Card File	**Temporary.** Destroy when replaced by card and photograph or when the tray or set is discontinued.
5700.12	Tax Exemption Certification File	**Temporary.** Destroy tax certificate books, including voided certificates, 3 years after the period covered by the related account. Destroy U.S. Government Tax Exemption ID card 3 years after period covered by the related account.
5700.13	Catalog Listing File	**Temporary.** Destroy when superseded by new listing
5700.14	Equipment Inventory List	**Temporary.** Destroy the list 1 fiscal year after transfer of balances to new form. Destroy all other accountability records after inventory and final adjustments have been made and the balance

Item Number	Records Description	Disposition Instructions
		brought up to date on the consolidated memorandum receipt.
5700.15	Excess Property File	**Temporary.** Destroy 1 fiscal year after disposition action has been completed.
5700.16	Gas Cylinder Register	**Temporary.** Destroy 30 days after registers have been completely used and after all cylinders listed have been returned to the contractor.
5700.17	Property Accountability File	**Temporary.** Destroy after final entry and after adjustments have been made and the balance brought up to date.
5700.18	Property Voucher File	**Temporary.** Remove to the records storage area after 1 fiscal year. Destroy after 2 years in the records storage area.
5700.19	Property Voucher Register	**Temporary.** Remove to the records storage area 1 fiscal year after date of final entry. Destroy 2 fiscal years after date of final entry.
5700.20	Transaction Register	**Temporary.** Remove to the records storage area 1 fiscal year after date of final entry. Destroy 4 fiscal years after transfer to the records storage area.
5700.21	Reserved	-
5700.22	Total Control Register File	**Temporary.** Destroy after 1 fiscal year.
5700.23	Requisition Register	**Temporary.** Destroy 2 fiscal years after date of final entry.
5700.24	Supply Requisition File	**Temporary.** Destroy 2 fiscal years after completion or cancellation of requisitions.

Item Number	Records Description	Disposition Instructions
5700.25	Equipment and Testing File	**Temporary.** Destroy after 3 years, original and/or copies in the VA Marketing Center and CO, Office of Acquisition and Material Management. Destroy field facility copies after 1 year.
5700.26	Reserved	-
5700.27	Reserved	-
5700.28	Supply Requisition File	**Temporary.** Retain the current and immediate prior-completed cards. Dispose of all other completed cards. Immediately dispose cards of deceased beneficiaries, after termination of eligibility, and when items are no longer medically indicated. Dispose of card or delete information after 3 continuous years of inactivity.